MOUNTAINS IN THE SEA

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The Story of the Gough Island Expedition

BY

MARTIN HOLDGATE

With a Foreword by

H.R.H. PRINCE PHILIP
DUKE OF EDINBURGH

and a Preface by

J. B. HEANEY

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FOREWORD

BY

H.R.H. PRINCE PHILIP
DUKE OF EDINBURGH

BUCKINGHAM PALACE

WHEN I first heard of this venture I did not know that there was such a place as Gough Island, and much less did I suspect that I would ever go there.

I read the typescript of this book before we arrived at Gough, so you can imagine how interesting it was for me to be able to land at Quest Bay and to be greeted by 'Van' who was a member of this Expedition.

I just had time to go up to the penguin rookery, scramble along the boulder beach in a vain search for fur-seals, and enjoy the hospitality of the South African Met. Station, who now occupy the hut, before going on to Tristan da Cunha.

This book is a charming account of the adventures of the Gough Island Scientific Survey. It is the story of a well-planned and a successful expedition which, although it had its share of misfortunes, achieved as much as, if not more than, was expected.

If every man has to face his Everest some time during his life, I strongly recommend him to get his Gough Island in first. There is no better preparation.

PHILIP

March 1957

PREFACE

BY

J. B. HEANEY

THE Gough Island Scientific Survey was an unorthodox sort of expedition, in more ways than one, but chiefly because it had three leaders. Martin Holdgate, the author of this book, was the third and the only one to be with the Expedition for the whole time. When he took over from his unfortunate predecessor he wrote to me asking 'Which nigger boy next?'

Having succumbed myself, even before the party left England, I had to imagine what was going on by interpreting fortnightly radio messages written in the most developed cablese. But Fate repented eventually and I left the country — more of that later. Here I have the opportunity of telling you something about the author which his modesty will have caused him to omit, and also of thanking all those who had confidence in me and the enterprise when I was planning it.

Martin Holdgate was the best-qualified scientist on a scientific expedition. He was awarded a first-class honours degree at Cambridge and afterwards spent three years investigating the waterproofing properties of the shells of insects. He was elected to a Research Fellowship by his College, and not only was he an entomologist but a keen botanist and a master of many other subjects. When the difficult choice had to be made on the island between doing the survey programme and collecting the 'bugs and beasties' that he had joined the Expedition to do, he readily sacrificed his own work, not only because the map was important, but because by helping to make it he would acquire another skill. He possesses that spark of genius which enables a man to turn his hand successfully to fathoming the details of, say, geology, writing popular articles for the press on the Expedition's activities, or turning out good pictures from the dark-room. Much of the success of the Expedition was due to Martin after he stepped into the shoes of Robert Chambers and shaped the early course of the field work.

The whole character of exploration has changed in the last fifty years. There are few places on earth which man has not seen, and it is no longer enough to visit an isolated spot and just tell the world what it looks like. Someone will have done that before. An expedition must aim to investigate some definite problem which arises in the area, and this might include anything from hunting the Abominable Snowman to observing the life cycle of a unique spider. There are still, of course, some travellers who can afford to finance themselves or who can get backing from a firm to drive the first car from A to Z, but for those without the means there are few wealthy enough individuals left who can offer their patronage, and it is necessary to approach the various societies and institutions which foster research. I hope this book will show that the days of the private expedition are not yet over, that a successful enterprise can be launched and run efficiently, and can produce worthwhile results with a team that begins and ends as a team of friends. It is unnecessary to have a managing committee, but essential for all the members of the expedition to have an overriding enthusiasm for the project.

Sometimes the first question I was asked in an interview was, 'You're not taking any women, are you?', which required a convincing explanation that it was not a stunt or a holiday for which I was asking support. Over £4000 was raised for the Gough Island Scientific Survey before the party sailed for South Africa and we are much indebted to the Scott Polar Research Institute, Cambridge, and the Royal Geographical Society for their early confidence in the enterprise and their financial assistance, and also to many other persons, societies, and institutions who gave their support. I hope some will forgive me if I do not mention them by name, but they include the Mount Everest Foundation, the Royal Meteorological Society, the British Museum, the Directorate of Colonial Surveys, the Directorate of Military Survey, the Argus Printing and Publishing Company, Macmillan & Co. Ltd., Christ's College and Jesus College, Cambridge, Brasenose College, Oxford, The Cory Managers, Cambridge, the Botanic Gardens, Oxford, the Zoological Society of London, the Department of Zoology, Cambridge, and many more. With their help it was possible to put the party in the field, but there was not enough money to pay members any salary. Fortunately, however, plenty of people can still be found who will embark on an enterprise of this kind for its own sake and not for the bank balance that will have accrued by the time they return from their isolation. They know that the indirect benefits they will reap will be more use to them than a few hundred pounds in cash.

The Expedition is very grateful indeed to His Royal Highness the Duke of Edinburgh who supported the project and took keen interest in our activities. We were delighted when it was announced that His Royal Highness would visit Gough Island in January 1957 on his way home from Australia.

WAKES COLNE, ESSEX

ACKNOWLEDGEMENTS

A BOOK resembles an expedition in this ; that no one man can accomplish it unaided. Here it is my pleasant duty to thank all those who have helped in the preparation of this story.

First and foremost, I am most grateful to H.R.H. Prince Philip, Duke of Edinburgh, for his Foreword which, as these pages show, comes at the end of a great deal of encouragement and assistance. I would also like to thank John Heaney for his embarrassingly generous Preface, my other colleagues of the Expedition for good advice and general tolerance, and my parents for much patient perusal of manuscripts. I am also most grateful to Mr. Geoffrey Winthrop Young for leave to reproduce his poem, 'The Treasure of the Heights', and to the Editor of the *Geographical Magazine* for colour blocks.

Finally, I would like to thank all supporters of the Expedition, and all our friends in South Africa and Tristan da Cunha for their kindness and help. There are too many for me to name them all, but I would like particularly to record my gratitude to Mr. A. B. Crawford, Professor and Mrs. J. H. Day, Mr. and Mrs. P. R. Forsyth Thompson, Captain O. Mohr, Mr. and Mrs. N. Mudie, Mr. M. T. Scott, and Mr. H. G. Stableford.

If, despite so much good advice, errors still lurk between the covers of this book, the fault is mine alone.

M. W. H.

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THE TREASURE OF THE HEIGHTS

Seek them, ye strong,
the cold of morning and the mountain wind.
Through sun and whispering spray
there lies one open way
for manhood still to find
the lamp of vision and the river of song:
seek them for truth, ye strong.

Feel them, ye feet,
the spring of heather and the shrinking snow.
Cloud and the dews of night
leave them for your delight,
that ye may gladly go
through the grim city and the cobbled street:
feel them for hope, light feet.

Hold them, ye hands,
the rough of granite and the stinging rain.
Earth stores them on hill-slope,
cleansing and clasp of hope,
to cheer your age again
groping in darkness through the last grey lands:
hold them for strength, sure hands.

Take them, O heart,
the joy of comrades and the thrill of strife.
Who has the hills for friend
has a God-speed to end
his path of lonely life,
and wings of golden memory to depart:
take them for love, true heart.

Geoffrey Winthrop Young

CHAPTER ONE

The Road to the Isles

ACCORDING to the guide-books and to works of popular fiction, April in Cambridge is a season of sunlit beauty; of daffodils and green willow fronds unfolding among red brick and mellow stone. But the resident soon realises that the city may wear a very different aspect at this time, and it was on a damp and dismal April day that this story had, for me, its beginning. Low clouds, swept by a fresh westerly wind, were hurrying over the pinnacles of King's, and the medley of irregular roofs beyond my window was glistening with rain.

I turned from the view and peered through a microscope at a beetle which I was dipping slowly and carefully into a beaker full of water. Like many another comic-seeming operation, this process was dignified by the title of Scientific Research. It was interrupted by a knock at the door.

'Ah, Martin. Are you busy?'

'Not particularly. Come in and take a seat.'

My colleague and friend, whose scientific business in life involved studies on the blood of brine shrimps, settled himself on a stool of very doubtful stability. He then resumed the conversation.

'Martin, are you interested in going to Gough Island?'

The name meant nothing to me.

'It's in the middle of the South Atlantic, near Tristan da Cunha,' he explained. 'They speak of it as Sub-Antarctic, though I gather it is only 40 degrees south and has a pretty temperate climate. Anyway, an expedition is going there, and they need a zoologist.'

'What do they propose to do when they get there?' I asked.

'Practically everything, as far as I can gather. Mapping, weather observations, biological and geological collection — the lot. It seems to have escaped study completely. If you are interested, the leader, a Christ's man called Heaney, is coming to see me at half-past eleven. He asked me to go, but I don't see how I can possibly make it — and it sounds rather your line.'

Now dipping insects into water can be surprisingly interesting, and laboratory research in Cambridge is a pleasant life. But at that time I had had three years of it and the prospect of life on a remote island seemed very attractive. Gough Island — after all, why not? There would be insects — there always are insects — and they would probably include some new species. One might even get round to dipping them into water. '. . . If it is a serious scientific expedition under reputable leadership, well and good,' advised my father, 'but if it is simply a party of wild young men out for a spree, keep out.' My first meeting with John Heaney dispelled any thought of this being merely an undergraduate's folly. It is hard to describe anybody without the use of trite phrases, so I will leave John's features for the photographs to illustrate. Short, broad-shouldered, and with a prominent jaw, he gave, from the beginning, an impression of energy and purpose. The objects of the Expedition were quickly outlined. Gough Island? Yes, it was uninhabited. About eight miles long, four miles wide, and rising to nearly 3000 ft. John explained that the island lay about 230 miles south-east from Tristan da Cunha, and that its position, as far as was known, was around 40 degrees south, 10 degrees west. It had been visited by a few Antarctic expeditions on their way home, but a great deal of work remained to be done there. Money? He certainly hadn't enough to be able to guarantee that the Expedition would in fact take place, but he hoped that the party would be able to sail in late July. The Royal Navy had promised to take them to Tristan da Cunha in a frigate which would be paying a routine visit at the same time. Funds or no funds, here was an

Expedition in an advanced stage of organisation, which, if the personality of its leader had anything to do with it, was certainly going to attain its objective.

And what of that objective? Why should a small island in the middle of some of the world's stormiest seas be worth the labour of a visit? What was there that could possibly make it worth while for a group of highly qualified men to spend six months there in discomfort and isolation?

The answers to these questions depend largely on the position of the island. If the Earth were to lose all its water, and become like the Moon, many striking geographical features would be revealed of which the average man of today has no knowledge. Among these would be a huge mountain range — one of the longest on earth — which at present lies beneath the waters of the Atlantic Ocean. This range is called the Mid-Atlantic Ridge, and it runs through 120 degrees of latitude from Greenland and Iceland to within a thousand miles of the Antarctic continent. Only a few of its highest peaks pierce the surface of the sea. There are the Azores in the north, then, coming south, St. Paul's Rocks, Ascension, St. Helena, the Tristan da Cunha group, Gough Island, and Bouvet Øya. All these peaks are volcanic, and most of them rise abruptly from deep water. They form island-mountains, as remote from continental land masses as any islands in the world.

Now the Mid-Atlantic Ridge has been the subject of some fascinating speculations. Some people believe — and some very definite evidence has recently appeared to support that belief — that once upon a time Africa and Europe were linked to the Americas to form a single vast land mass. Since then, this continent has split up, and its components have drifted apart, 'floating' upon the denser rocks below. Push them together again, on a map or in imagination, and you will see that there is a vague general 'fit' between the coastlines, the bulge of Brazil, for example, filling the hollow of the Gulf of Guinea. Now the fit is not exact, and some consider that the Mid-Atlantic Ridge and other similar structures represent fragments left behind when the main masses separated and drifted apart.

Even more romantic is the view, in some ways a development of the first, that the Mid-Atlantic Ridge is the last vestige of a drowned continent: Atlantis cast down into the deeps with only its highest summits protruding. Who knows, might not all the fabled riches of Numenor await the explorers of its last remnants? On a more prosaic note, both these ideas require that the Mid-Atlantic Ridge should be composed of 'continental' rocks (which differ markedly from those composing the floors of the ocean basins), and a study of the composition of the islands should help to decide these problems.

But Gough Island offered many other justifications for an Expedition. In the first place it had been very indifferently mapped, and such surveys as had been made were from the sea. A delicate and precise instrument like a theodolite cannot be used on a heaving deck, and such surveys cannot attain the accuracy normal to shore-based work. Only the coastline was represented on the charts in any detail, and the mountainous interior of the island was largely unmapped and unexplored.

Secondly, a study of the island's weather was likely to be helpful to forecasting in South Africa, since the prevailing winds in the region are westerly, and the depressions passing over Gough usually arrive off the Cape of Good Hope about a week later. Yet a third reason for going was that next to nothing was known about the animals and plants of the island, and these might be of great scientific interest.

On the afternoon that followed our first meeting, I went, at John Heaney's invitation, to rooms in St. John's College, 'to meet the others'. I passed through the Third Court, one of Cambridge's less beautiful pieces of architecture, and climbed a flight of worn stone steps. A door ahead opened to reveal a young man with a pack-frame on his back, and John himself examining and adjusting it.

Roger LeMaitre, the man with the pack-frame, was introduced as the geologist of the party, and its youngest member. He was twenty-one at the time, while John Heaney was twenty-four. Roger, it became clear, was a member of the University Mountaineering Club, and also a keen photographer — cameras followed pack-frames as the subject of discussion. Somewhat like John in build, Roger was of medium height, broad across the shoulders, but dark-haired whereas John was fair.

John Heaney, I discovered, had been on an expedition before. He had been a surveyor on the South Georgia Survey of 1951–2. Brought up among the mountains, forests, and lakes of Kashmir, mountains and an independent life among them were dominant enthusiasms. He was an engineer by profession, but from the first displayed a real interest in all aspects of scientific research. Anything connected with Gough Island was of interest to him, whether it was biology, geology, wireless, or past history, and he would take time and trouble to understand it. The Expedition was his own idea, and from the first he never concealed that he was organising it because he wanted to lead a party to do a really worth-while job. First he had to be convinced that Gough Island would yield results which would really repay the time and labour of getting there. Having selected his objective, he then turned to the second point, selecting personnel, for a subsidiary reason for the Expedition was his wish to test his powers of leadership with companions of his own choice. All the members of the party were selected by John, and the fact that we never had a single real quarrel during the six months of life on Gough Island is a tribute to his judgement.

Robert Chambers, who burst in upon the tea-party a few moments later, was at first sight a very different type. Tall, thin, and with a general air of ebullient humour, he none the less displayed the same drive and capacity for hard work. A keen mountaineer, certainly the most skilled in the Expedition, he had been at school with John Heaney and the two, in consequence, knew each other's outlook and worked together with complete understanding. Clothing was Robert's concern at this first meeting, and he was full of news about underwear and boot soles.

Next came Philip Mullock, radio operator. Dark, slightly built, and appearing much more youthful than his twenty-two years, he displayed from the first a vast store of technical jargon coupled with a whimsical humour. Then, last, came Gavin McLaggan, no longer a member of the Expedition, but still working on the organisation of the food supplies.

To complete the list, let me give a few details of the other members of the party who were not present on this occasion. Michael Swales, aged twenty-four, also of Cambridge, was a zoologist whose task on the island was to be the study of birds and seals. He was an experienced field naturalist, and had led two of the Cambridge University Bird Club's expeditions to Norway. Nigel Wace was the botanist of the Expedition, and the sole Oxford representative. Like John Heaney, he had been brought up in Kashmir, and had acquired much of the same attitude to life among mountains. He had been a regular officer in the Royal Marines, but had been invalided from the Service and had then taken up botany as an entirely new career. At twenty-six he was the oldest of the British party. Away in South Africa was the oldest of the whole Expedition, Johannes van der Merwe, who at his own wish was known as 'Van'. He was seconded to the Expedition by the South African Weather Bureau, and had the reputation of being the most adventurous of all their staff. Before coming to Gough, Van had spent a year at the Weather Station on Marion Island; a place nearly as remote as Gough and far bleaker and colder. His photographs revealed a big man, broad-faced and dark-haired, with eyes that suggested depths of humour hidden beneath a placid exterior.

According to T. S. Eliot, a shadow falls 'between the idea and the reality', and in the Expedition world this shadow is none the less real for being financial. In our case the essential minimum of funds was built up by appealing to various Societies, Colleges, firms, and individuals, many of whom responded most generously.

We started with the active support of the Scott Polar Research Institute in Cambridge. Dr. Brian Roberts, of that Institute, had originally proposed Gough Island as a suitable objective. Before that, John Heaney's Expedition had been bound for Edge Island, a barren outlier to the east of the Spitsbergen group. From the first the S.P.R.I. had been closely concerned with our plans. They placed an attic room at our disposal, and there a cairn of our impedimenta — boxes, bags, and ropes — was slowly built up. And, from the very limited funds at their disposal, they made us our first grant. They were followed by the Royal Geographical Society, the Royal Meteorological Society, the Mount Everest Foundation, and the Zoological Society. Various Colleges and University funds made contributions. A South African newspaper group — the Argus Group — helped a great deal. The Colonial Office, acting on behalf of the Tristan da Cunha Administration, gave a grant for an investigation of the fur-seals of Gough and the possibility of their economic exploitation. Many firms helped us by making gifts of food and equipment, and the scale of this response is indicated by the fact that our total food stores, which would have cost over £800 at current retail prices, were obtained for an expenditure of only £52 : 10s.

But even with all this assistance, as July drew nearer we looked more and more like failing to achieve our target. Then, not long before our provisional sailing date, by now postponed, came news of further support. John wrote in a circular to all members: 'You will be glad to hear that the Duke of Edinburgh is very interested in the Expedition and may make a substantial contribution to the funds. Nigel and I are going to see Sir Frederick Browning about this on Monday.'

And it was this support that turned hopes into certainties.

Packing was in full swing by the middle of July. The cairn of crates at the Scott Polar Research Institute had been split up, and now lay spread over the floors of our two packing firms, Andrew Lusk's in Wapping Wall and W. Lusty's in Bromley. People bustled around the warehouses, crating, nailing down, banding, and weighing. Next to us in Lusty's the gear for the current South Georgia Survey was being assembled, while in Lusk's warehouse the Expedition atmosphere was also strong. The landing on Gough sounded awkward; steep stony beaches with a treacherous sea had made it difficult for several of our predecessors, and had caused at least one boat to be wrecked. We were prepared for having to work waist-deep in surf in order to get the stores ashore, and decided that we must keep the weight of the crates to a minimum. Seventy pounds was agreed to be a weight which a fit man should be able to handle on his own. Then, all the stores must be packed so that they would not take hurt if they went in the sea. Foodstuffs were either tinned, or, where the manufacturers supplied them in packets, sealed in polythene bags. Polythene bags became one of the most typical features of the Expedition landscape. Food, kit-bags, electrical equipment; all were wrapped in polythene.

> The common cormorant or shag
> Lays eggs inside a paper bag,

runs the popular ditty, and the Expedition soon added the couplet:

> The Goughalite is not so mean,
> He wraps *his* things in polythene.

In the midst of all the whirl and bustle that surrounded the organisation of stores, equipment, and finances there was, of course, mounting interest in the island itself. We combed through obscure periodicals, and searched among old, leather-bound volumes in the dust and darkness of College libraries. And, from the scraps of information that came to hand, we built up a picture and a history of Gough Island. During the nights the island came to feature in many people's dreams, and Robert Chambers summed up his and John's experiences in these words:

'Usually there was land near by. John contrived to survey Gough from South Georgia, a mere 2000 miles away, and met a Communist patiently tilling a field on what seemed to be a continent quite close to the island. Once, having climbed to the summit, I discovered that the whole place was hollow. There were enormous steel girders supporting a superstructure of soil and vegetation, and the top was crowned by a concrete hotel rather like that on the peak of Snowdon and quite as disappointing. The whole thing was bogus and wrong, and there were hostile and unpleasant hotel people about. John found a paddle steamer discharging hundreds of trippers who spread out over all except the southern tip of the island where a calm fisherman was quietly throwing his net. My most demoralising encounter was with three boys. I felt sure they had no business to be on the place so I asked them what they were doing there.

'"Just what do you think you are doing here?"

'"Oh, we belong to the Club," one of them replied, surprised and apparently offended.

'"What Club is that?" I asked, suspecting that I was being out-ployed.

'"The Club of the Prince of Tristan, of course." This was unanswerable. With the score at love-thirty I terminated the engagement and woke up.'

Although, as Robert wrote, 'from the beginning there was something dreamlike in our conceptions of what we might find', we did manage to build up sufficient of a picture to orientate our plans of work. And, since a book resembles an expedition in requiring at least some knowledge of one's objective before one reaches it, let me here summarise the chief features of Gough Island.

Despite its great interest it is only a small island. It is slightly over eight miles long, just under four miles wide, and its highest summit reaches just under 3000 ft. It is nearly oblong in plan, and the coastline, though irregular, lacks deep bays. In consequence, there is no sheltered harbour, and a vessel has to take up anchorage wherever the lee happens to be at the time of her visit. The coasts are girt by cliffs varying from 100 to 1500 ft. in height, though the highest of these are nowhere sheer. The centre of the island is an undulating plateau about 2000 ft. above the sea, but along the east coast various deep, narrow valleys give the landscape a much more broken aspect. The map facing page 8, based on a survey made in 1922, shows the extent of our knowledge of the island's topography at the time of our visit. This knowledge had been acquired from the visits of various warships during the nineteenth century, and of four scientific parties during the present century.

From the available maps and information we answered as many questions as we could. But many problems remained for us to investigate, and many of our wilder guesses about climate and landscape were to seem comic in retrospect. All these speculations increased our desire to be under way.

But on July 15th came a blow. Everybody received a letter from John Heaney, dealing with final points of organisation. And in that letter there was one section which stood out from the rest. It was headed 'own position', and ran:

'I saw the doctors on Tuesday, and, though they were pleased with progress, they would NOT give me an all-clear. . . . Under the circumstances, and taking into account all the factors that are pertinent to the problem, I have decided that it would be most unwise for me to take part in the field work.'

There had been a threat that this might happen for some months, but the fact that we half expected it made it none the easier to grasp. John had been so much in the centre of things; the Expedition had been so much his own personal venture that it was hard to realise that in a month's time he would be on the wrong side of a widening lane of water between a ship and a quayside. Robert Chambers was given a hurried course by the Army to prepare him for taking over the survey programme. He also succeeded to the leadership, but since he and John had worked together so closely during the earlier stages, the change made very little outward difference to the conduct of affairs.

That oft-tried medium, the 'personal' column of *The Times*, led to James Hall's joining the Expedition to take John's place in the field. He was older than the rest of us (32), had served in the Royal Navy during the war, and at one time and another had been a schoolmaster, a medical student, and a research worker for the Ministry of Supply. His varied experience, and especially his medical knowledge, was to prove a great asset to the Expedition. His main task was to be cine-photography, and our financial position was strengthened by an advance made on a television contract.

At last, on September 1st, 1955, Robert, Philip, and Roger sailed from Southampton in the R.M.M.V. *Carnarvon Castle.* Two days later, the M.V. *Roslin Castle,* bearing James, Nigel, Michael, and myself, moved out from London down the Thames. It was a fair, calm evening, with a full moon breaking through thin cloud, and the calm continued all the following day as we headed westwards down the Channel. A full-rigged sailing vessel passed close by us in the morning, while that night the number of ships' lights was startlingly large.

Finisterre, Las Palmas, Cape Verde. On southwards through the zones of the north-east trades, the doldrums, and the south-east trades. Through warm days with steep seas capped with a dazzle of foam and streaked with flying-fish. Through tropical nights quivering with a wealth of unfamiliar stars. So natural did a landscape of sea and sky and nothing more become, that it was something of a shock when, early one morning, a bright southern constellation lifted above the horizon and revealed itself as the lights of Cape Town. Above the city the broad bulk of Table Mountain loomed darkly against the dawn.

We spent a week in Cape Town ; a busy week of meetings and preparations. Here Van joined us, and here too we met Allan Crawford, who had been our agent in South Africa. Allan first went to Tristan in 1937 as surveyor in a Norwegian Scientific Expedition, and later returned to the island as meteorologist. He had once planned an expedition to Gough himself, and we owed a great deal to his enthusiastic support for our own plans and his great knowledge of the islands. He accompanied us, when we embarked once more, in the frigate H.M.S. *Magpie*, bound for Tristan da Cunha. Our fellow guests in a very crowded ship included the (late) Archbishop of Cape Town who was taking the opportunity of visiting the remotest part of his Province, two dentists, and two families returning to the island after spells of leave at home.

Nobody could describe our voyage in *Magpie* as eventful. The weather remained grey and nondescript. The ship rolled — but we were assured that she did that even in dry dock. The ship pitched — but the same probably applied. However, it was usually dry somewhere on deck, provided that you climbed high enough and lurked in the lee of a large enough piece of the superstructure. When it was fine we spent much of our time on 'B' gun-deck, where discussions were held at some length. We now expected that the *Tristania*, the ship of the Tristan da Cunha Development Company that was to take us on the last two hundred miles to Gough, would not arrive until a week after we did, and that week must be used profitably. Would it be best to spend all the time on Tristan, or should a party go to either of the near-by Nightingale or Inaccessible Islands if the opportunity offered? Plans for the week were brought forward. Nigel was determined to go to the mountain bog called Soggy Plain, at the south end of the island, and get some peat samples. Such samples might — and the reasons will be apparent in due course — tell us a good deal about the past history of plant life on Tristan. We were all keen to climb the central 6760 ft. Peak if time allowed. Michael wanted to become familiar with the birds of the island. I wanted to test collecting methods. Roger and James wanted to obtain still and ciné-photographs to cover island life in and around the Settlement. Robert wanted to get fit. And also, though he did not say so in as many words, he wanted this week on Tristan to be used as a period of trial and experience. No party settles down to work together immediately. If on Tristan we could learn to work as a team, and make muscles and temperaments accustomed to the island terrain and weather, a great deal of time might be saved when we at last arrived at Gough.

It is curious to look back on this time, and reflect on the coldly scientific manner of our approach to Tristan. The island, as it had in England, still appeared as a series of problems on paper, and the islanders remained little more than a peculiar element in its mammalian fauna. If we thought of them at all, it was as incidental curiosities which we might glimpse briefly on our way to more important fields of study. We were concerned chiefly with photographing and recording them as curiosities and perhaps (though I blush now to recall it) using our records as the basis of articles and broadcasts which might help to balance our still shaky budget.

October 1st dawned grey and as nondescript as the days before it. But weather forecasts told of a 'high' to the west of Tristan, and the news from the island was that Big Beach, where we hoped to land ourselves and stores, was in better condition than at any time in the past fortnight. Commander Stephenson decided to increase speed so as to arrive while good conditions remained. An extra boiler was therefore brought into use, and the ship butted into the westerly swell with added violence.

Soon after breakfast the island was sighted on radar, and just after midday an announcement was made over the broadcasting system: 'The island of Tristan da Cunha is in sight, dead ahead'.

Everybody scrambled up ladders onto the deck. Straight ahead . . . yes, there it was. A pale-grey cone, merely a silhouette, but rising high above the horizon. Almost the whole of the seven-thousand-foot Peak was free from clouds, although the sun was masked by a higher layer above. A few wisps of cloud capped the very summit, and below them there were white snow-streaks in the gullies of the eastern slopes. To the left, paler, more distant, was the low hump of Nightingale Island.

An hour more, and the far cone had grown to a great mass; an island mountain looming up across only ten miles of sea. The great, dark cliffs of the north-east coast, the greener slopes of the Peak above, the gulches that sliced across the slopes and dropped in gorges and waterfalls towards the sea, all stood out where before had been grey uniformity. It was, quite clearly, a place over which anyone with a liking for mountains could wax enthusiastic. Somewhere across those cliffs must run the Ugly Road, the only pathway between the Settlement on the north and the small patch of good grassland by the sea at Sandy Point, on the east. It needed some faith to believe in any path along such precipitous slopes. Ahead, the Settlement plain itself slid into view, a dark strip of level lowland crouching at the foot of the mountain, and looking like nothing more than a great fan of debris thrust out into the sea. Little dots upon it turned into cottages; a white spot on the left must be the *factory at Big Beach, but all these were dwarfed by the* shoulder of the mountain looming two thousand feet above them.

Half-past two in the afternoon. The ship slowed, now only a little way offshore, and almost among the kelp which grows in the shallow water surrounding all these islands. Ahead eight white-painted boats lay swaying gently in the smooth low swell of the island's lee. The anchor chain rattled out and cheerful faces grinned upwards.

'The day of arrival at Tristan', wrote Robert in the Expedition log, 'was just one month from the departure of the *Carnarvon Castle* from Southampton.' Gough, surely, could not be far ahead now. A cable was handed to Robert:

> 'CHAMBERS TRISTANDACUNHA' [it read] 'ENDEAVOUR TO CATCH SNARK GOOD HUNTING — JOHN.'

Certainly, from the anchorage, the mountain of Tristan da Cunha looked as if it might well support snarks, or even boojums. But the description of the 'chasms and crags' of its landscape, which were to loom so large in our travels, forms a fit subject for another chapter.

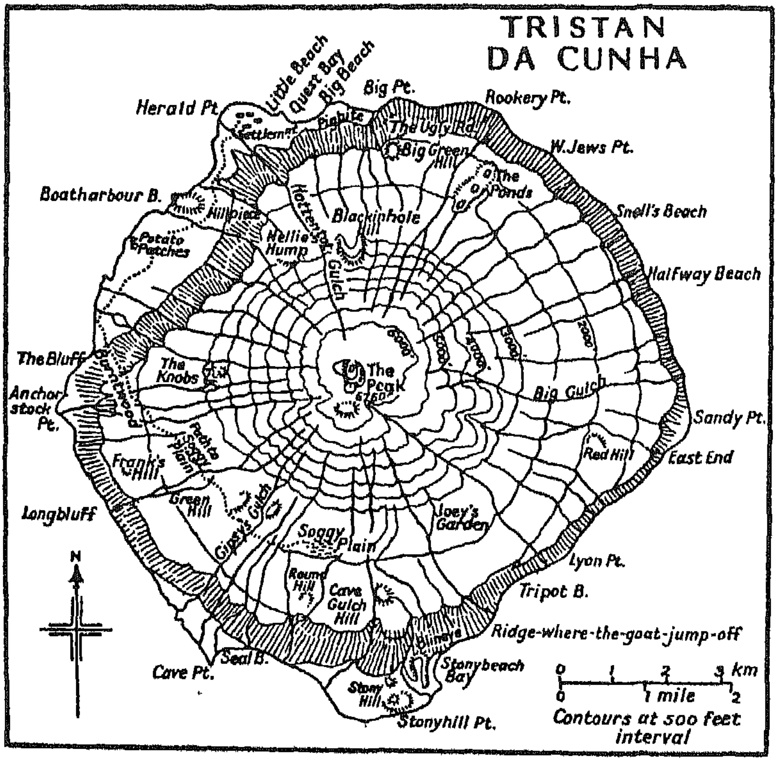
CHAPTER TWO

Mountain in the Sea

TRISTAN DA CUNHA, seen from the sea on a clear day, indicates its volcanic origin by its regular, conical silhouette. It is an island-mountain nearly seven thousand feet high and eight miles in diameter, but this peak, high though it is, is merely the tip of a far greater mountain. For the slopes of Tristan fall away under water just as steeply as they rise above it, and the base of the mass lies over nine thousand feet below the surface.

The volcanic nature of the island remains evident on closer inspection. A crater-hollow, now filled by a lake, remains at the top of the 6760 ft. Peak, and there are numerous lesser craters dotted over the lower slopes. The slopes of the Peak itself are composed of loose, slithering cinders which give way beneath the foot and make walking as burdensome as on sand. Yet even here, in the waste rocky desert, there are vivid patches of mosses and multi-coloured lichens on all the larger and more stable rocks. Lower down the plant cover becomes complete, and the cone of the Peak broadens and its gradients slacken. Around its foot runs the plateau which the islanders call the Base; the base or pedestal on which the Peak stands. Yet the Base itself lies between eight hundred and two thousand feet above the sea, and its long, scrub-covered levels end abruptly at the edge of the encircling cliffs. Cliffs these are in name and structure, yet they are far from sheer, except on the bolder headlands where the sea washes their feet. For the most part they are steep earthy slopes, covered with straggling trees and stumpy tree-ferns, or, where the trees have been cut for firewood, by a sward of dense-growing short fern. Only a few low pitches of really vertical rock break these slopes, which may be climbed in most places without difficulty.

The gulches, the drainage channels, radiate from the Peak like the spokes of a wheel. They are deep, scoured out by the rains of many thousands of years, and where they come to the edge of the Base, drop over spectacular waterfalls into narrow gorges. Or at least, drop over waterfalls that are spectacular when there is any water to fall over them. For, despite their size, most of the gulches contain little better than trickles, and it needs a real cloudburst on the Peak to fill them. When this happens, the edge of the Base is lined with vertical white streaks; it looks, as Jerry Stableford, the Agricultural Officer, once said, 'like a table on which somebody has upset a bucket of water'. Other-



wise the drainage of Tristan runs underground, breaking out at the cliff-foot in springs.

Except near the Settlement, the Base and the cliffs are covered in a scrub of the 'island tree' (*Phylica arborea*). This is an evergreen, with small leaves, and it rarely attains a height of much over fifteen feet. The trunks grow along the ground and the branches intertwine, to form a dense tangle in which a walking pace of a quarter of a mile in an hour is a good speed. In between the trees there are tree-ferns (*Blechnum palmiforme*), known on the island as 'bog-farn', and on the Base these form a thick jungle of stubby trunks up to three or four feet high, crowned by stiff, yellow-green fronds.

All the cultivation on Tristan, and most of the good grazing, is to be found on the Lowland Plain. This lies at the foot of the cliffs that fall from the Base, and it forms a discontinuous outer ring round the island. There is a small patch on the east, a larger area in the south, and the largest strip of all in the north-west. The Settlement stands on this north-western section, which is about four miles long and half a mile wide. The surface of the plain is littered with debris fallen from the cliffs above or washed down the gulches, but most of it is covered with a smooth grassy sward, sloping down evenly to the tops of the outermost cliffs, some hundred feet above the sea. But we know, from the descriptions of the first visitors, that this Lowland Plain once supported jungle every bit as thick as that now found on the eastern side of the Base. In among the trees and ferns there was also a dense growth of 'tussock grass', a tall, stiff-leaved grass which forms huge tussocks up to eight feet high and six feet across. Tussock of this kind still covers the greater part of Nightingale Island, so that, although this island is only a mile and a half square, it is a feat to walk round it in a day.

The tussock and forest were stripped off the Lowland Plain soon after the arrival of the first three settlers, who were landed by the American sealer *Baltic* in 1810. Jonathan Lambert, a New England sailor, was the leader of the party, and in December 1810 he issued a proclamation:

'I, Jonathan Lambert, have this day taken absolute possession of the Island of Tristan da Cunha, so called, and the other two, known by the names of Inaccessible and Nightingale Islands, solely for myself and my heirs for ever. . . . I do further declare that the said islands shall be nominated Refreshment, and the landing place on the north side a little to the east of the cascade to be called Reception, and which will be the place of my residence. I do hereby invite all those who may want refreshment to call at Reception, where, by laying by, opposite the cascade, they will be immediately visited by a boat from the shore, and their wants speedily supplied.'

Lambert designed his own flag and even went so far as to produce an ensign to be flown by any ships based on the islands. But, if such pomp and ceremony seem ludicrous, it would be wrong to assume that Lambert was not a practical man. His claims to Tristan were good, founded 'on the sure and rational ground of absolute occupancy', and his party did as much as they could to develop the island. On December 21st, 1811, he wrote to Captain John Briggs, summarising a year's experiences:

'I shall begin with the climate which is very healthy, being neither hot nor cold, but exceeding temperate. It never freezes, nor is there heat enough for ripening melons, I think, at least not without Inclosures, of which I have none. It is rather windy, but no very severe gales as yet. In the Winter and Spring it rains often — rendering it very disagreeable to us, who have but a sorry Jackstraw's hut thatched with coarse grass without floor etc. But we have Weeks together as fine Weather as Summer, and the Vegetation goes on finely through the year. All the hardy kinds of Kitchen Garden Stuff flourish better in Winter than Summer, as in the latter Season they are apt to run for seed such as Cabbage, French Lapland and round Turnips, Beet Carrot Parsnip Pease Radish Lettuce Onion Parsley &c. &c. Potatoes suit the soil, which is a light one and composed for the most part of Vegetable Mould. . . .

'Of land fit for Cultivation, I think there are 3 or 400 acres on this side, including a fine meadow of about 12 or 15 acres. On this Cattle may feed the year round. I have a small flock of geese which give me no trouble to feed. . . . I have a piece of ground about 10 or 12 acres containing two ponds where the Sea Elephants abound, here I have 8 Sows and 4 Boars quite tame, all of which save 5 we caught on the Island, of which there are many more; some we have shot, some we have knocked down &c. All this stock together with ourselves live at present on the flesh of the Elephant. The Pigs, however may live altogether on herbage where they are, for which purpose indeed I put them down there, but I give them an Elephant one in 10 to 15 days, to keep them in heart. . . .

'We have the little black Cock in great numbers, and in the fall are very fat and delicate. We caught some hundreds last year with a Dog, but I have none proper for them such as a Terrier would be.

'The Mountains are covered with Albatross Mollahs Petrels Seahens &c. A great deal of feathers might be had if people were to attend to it. For the waters they are well furnished, Fish are to be had at any time for the trouble of taking whenever the sea is smooth enough to fish from the rocks. Sea Elephants are plenty. . . . This last season I think a 1000 Pups were brought forth on this Island, and as many more on the other two. We have killed about 80 since we landed, and we shall I suppose kill about two a week through the year. We have made about 1000 gallons of Oil for the purpose of buying a boat if possible. Of Seal we have taken a dozen.'

These are typical extracts from Lambert's letter, in which he proposes to start a business exporting oil and seal skins and perhaps salted fish. But Lambert was drowned on a fishing excursion in 1812, and his little state came to an end.

The island was next inhabited in 1816 by a garrison (said to be of a Hottentot regiment) sent out from the Cape. Napoleon was at this time in exile on St. Helena, and the authorities were concerned lest Tristan be used as a base for his rescue. When, in 1817, this garrison was withdrawn three of its members obtained leave to remain on the island.

The leader of this party was William Glass, Corporal, a native of Kelso in Scotland. He was married to a Cape Coloured wife, and they had two children at the time of their arrival on Tristan. They had been joined by several other men by 1824, when the island entertained the first visitor from the outside world to describe his experiences in writing. This was a young artist named Augustus Earle, and he was marooned on Tristan for nearly a year. He was treated kindly by Glass, and speaks very highly of the man and of the young colony. Each night, however stormy it might be outside, they met in what they called 'Government House', and, sitting in front of a blazing fire, told stories of adventure or sang songs. 'Without wine, grog, or other strong drink', they yet remained cheerful, and he never saw a sad or discontented face among his companions.

Earle has much to say about the wild life of the island, which still remained as profuse as in Lambert's day. Sea-elephants still hauled out on the beaches in large numbers, and there was a penguin rookery at least a mile in circumference where they collected upwards of a thousand eggs. He describes the flightless rail of Tristan; a bird about the size of a partridge, with a gait somewhat like that of a penguin. The male was glossy black, with a bright-red, hard crest on the top of his head, while the hen was brown. They stood erect, their legs were yellow and long, and they ran very fast. Their wings were small and useless for flying, but had a 'spear' used, as it was thought, for defence and as an aid in climbing about the rocks which they haunted. The flesh was plump, fat, and excellent eating. This bird is now extinct, but from the description must have resembled the rail of Gough Island quite closely in size, appearance, and habits.

By 1826 there were seven men on the island, but only two of these were married. The five bachelors persuaded a Captain Amm, master of the sloop *Duke of Gloucester*, to fetch them wives from St. Helena on his next voyage. Captain

Amm agreed to do so, but it is understandable that he found few volunteers to go to marry an unknown man on an unknown island. The five that did consent to come were all more or less dark-skinned, and one was a widowed Negress with four children. The nearer Captain Amm got to Tristan, the less he fancied himself as a matrimonial agent, and, perhaps to avoid being left with unwelcome passengers for the whole voyage, when he arrived at the island he landed the women in the early dawn and put to sea. The five bachelors walked down to the beach and found their brides, lined them up in a row on the sand, and each picked his fancy.

This introduction of Coloured blood is responsible for the dark skins of some islanders today, though photographs show that the colour has decreased with the years. From the time of Captain Amm's voyage, the colony increased rapidly, and when William Glass died in 1853 his own family alone numbered thirty-three. For Glass had sixteen children, many of whom stayed on the island and married there.

After Glass's death Peter Green became the virtual leader of the island, and continued to hold this position until a year before he died, in 1902, aged ninety-four. Peter Green earned the respect and affection of many visitors to Tristan, and under him the island had a proud record in the saving of life from shipwreck. This record had begun as long ago as 1821, when the Indiaman *Blenden Hall* went aground on Inaccessible Island, and Glass and his people rescued the survivors, conveyed them to Tristan, and looked after them until another ship took them off. Between 1821 and 1898 another thirteen ships were destroyed on Tristan and Inaccessible, and in all cases the islanders cared for the survivors, some of whom elected to stay on Tristan as members of the colony.

One typical shipwreck — or perhaps not so typical — was the loss of the British ship *Joseph Somes* in February 1857. The following account (hitherto unpublished) comes from the diary of one of the ship's passengers, Francis

Maybury, and I am able to quote it through the kindness of his descendant, Dr. F. M. Hilliard:

'Some few days previously a curious circumstance happened, which may be deemed properly an optical delusion, but supposed by our men — sailors are often superstitious — to be the dreaded appearance of the Phantom Ship, the Flying Dutchman, ever foreshadowing trouble and disaster. However that may be the watch at night were suddenly aroused, the man at the bow having perceived as he thought a strange ship close to our lee. All hands were quickly aroused, turning out on deck amid great excitement, noise and bustle, but lo and behold to the wonder and surprise of the individuals who witnessed it, it was soon found to have been the Flying Dutchman with its silky shrouds and cobweb sails. By the dim light of the pale moon the spectre ship was seen to glide with its silent crew rapidly and mysteriously along and then vanish like the airy mist, fleet gloomily and darkly away and yet still in defiance of all arguments to the contrary leaving on the minds of the men strange thoughts indeed and direful portentous apprehensions.'

As for the 'direful portentous apprehensions', they received their justification only a few days later, when the ship was off Tristan.

'Captain Elmstone having gone on shore in the jolly boat for the purpose of procuring water, on board, in the interval of his absence, a slight smoke was observed to come up in the chief cabin, which, in a few moments increased alarmingly and very soon issued from all parts of the hold. The flames burst up everywhere; we had barely time to put the gunpowder overboard . . . and escape in the boats . . . ere our vessel was enveloped in flames.'

By 1884 the colony had grown into a prosperous little community. They grew potatoes, reared sheep, cattle, and pigs, and traded with passing ships, receiving in return for fresh provisions, the canvas, wood, flour, and clothing that they needed. 'We have not got everything we want,' said Peter Green, 'but is it not the same in England? So we must take the good times and the bad times.' At least, in the nineteenth century, there was a steady stream of sailing ships passing the island, which lay on the best route for vessels outward bound for Australia and the Far East. But in 1885 there came disaster. The men had gone out in bad weather to board a passing ship, the barque *West Riding* bound from Bristol to Sydney. The boat, said Peter Green, 'had all our best boatmen in her, rather too many, fifteen of them married. If the boat and crew is lost, it will make Tristan an island of widows.'

'If the boat and crew is lost.' The people on shore at Tristan — women, children, and old men — had seen the boat, which was a new wooden lifeboat presented by the Board of Trade, passing out towards the ship, and coming close to her. To some indeed it seemed that the boat actually reached the ship, and then turned back and passed from sight in a rain squall. When the squall cleared, only the ship was to be seen, and though parties went round the island searching, no trace of boat or crew was ever seen again. Islanders today still pass down a tradition that the men boarded the ship and that her master carried them away with him. The captain of the *West Riding* indeed reported on his return that he had seen a sailing boat steering for the ship amid strong squalls and a heavy sea, and that it had vanished when about a mile and a half from him. He said that he had sailed over the spot without finding any trace. There is some discrepancy between the stories, for the islanders have always insisted that when last seen the boat was very close to the ship and it may be that the captain ignored their plight until it was too late.

Such behaviour, callous though it may seem, would not have been exceptional at that time. On several occasions, boats from the island are known to have gone out to ships which either would not wait for them or refused to allow the men to go on board. Sometimes men rescued from shipwreck had the depressing experience of seeing vessels manned by their own countrymen deliberately ignoring signals and boats, and sailing away to leave them in exile for an indefinite period.

Despite the loss of the longboat and her crew, there was still no wish among the majority of the people to leave Tristan, and an offer to remove them to the Cape was refused. But this disaster was followed by a decline in the numbers of passing ships and a failing agriculture, and it marked the beginning of the lean years of the colony. Steamers began to take direct routes far from the islands, and the construction of the Suez and Panama Canals took most of the Far Eastern trade out of the South Atlantic. From 1906 until the end of the First World War there was no mail to Tristan. During the 1920s and 1930s the islanders' diet was reduced to two staple dishes, fish and potatoes, with meat as an occasional luxury, and with penguin eggs and wild birds at certain seasons. The scarcity of ships and the urgent need for such things as paint, canvas, nails, and soap, made the islanders desperately eager to obtain all that they could when a vessel did arrive. Their importunity gave them a reputation as 'a greedy lot of beggars and thieves' among people who did not understand their plight. But since without canvas, nails, and paint no boat could be built, the acquisition of the begging habit is easily understood. At the same time, their failing agriculture made it harder and harder for the islanders to supply much that was of value in the way of fresh provisions in exchange for such goods.

Charity did come to the aid of Tristan in these lean years. The Society for the Propagation of the Gospel built a store-house and supplied some extra food, and a Tristan da Cunha welfare fund was organised by D. M. Gane, who had visited the island in the '80s and had been impressed by the place and people. Many friends in England sent parcels of clothing and luxuries. Quite naturally, the question of whether the island should be evacuated was again raised. Several visiting warships were charged with taking a vote among the people, to see if they would prefer to leave the island if promised land in the Cape. On all occasions, removal was refused by a substantial majority.

The Government could not consider removing the people by force, and it was realised that even if the present islanders were to leave, Tristan would not be long in attracting other settlers. So the evacuation movements never bore fruit, and the majority of the people would still prefer Tristan at its worst to an unfamiliar existence in the outside world. On the island, at least, they have their own land, their own customs, and their own background of memories.

For many years the only people from the 'outside world' to spend more than a few weeks in the Settlement were the missionaries sent out by the Society for the Propagation of the Gospel. The Rev. W. F. Taylor arrived, amid the rejoicing of the whole community, in 1851 and stayed until 1857. He was therefore present during the last few years of William Glass's life. Later, the Rev. E. H. Dodgson, brother of 'Lewis Carroll', stayed from 1881 until 1884. Mr. Dodgson was in England when the news of the longboat accident came, and immediately set out to return to Tristan where he spent another three years. Both these men tried to persuade the people to leave the island, since, used as they were to the luxuries of civilisation, they felt it hard that men should be compelled to live in the isolation and discomfort of Tristan. Well-meant as these efforts were, they had an unsettling effect on the people, and Peter Green wrote bitterly of how 'Mr. Dodgson is trying to break up this settlement'. A tract written by Mr. Dodgson entitled 'About Us Sinners at Tristan', which seems to have urged evacuation on the grounds that physical and moral decline must follow from the backward conditions, isolation, and inbreeding, came to Peter Green's hands and upset him badly. 'This pamphlet says that we are going to make another link in the Darwinian chain between man and ape', he wrote. 'So for us the motto is "Eat, drink, and be merry, for tomorrow we shall be apes".' Peter Green was the more hurt because he and all the island had found Mr. Dodgson a fine character, a good priest, and a loved friend. His return, despite ill-health, after the loss of the boat, because he felt his people needed him, says more for his character than any written record. After he finally left the island in 1889, the Settlement was without a priest until 1906, when the Rev. J. G. Barrow and his wife arrived. Then, after their departure in 1909, the island again lacked a priest until 1921, when the Rev. and Mrs. H. M. C. Rogers landed. There was another short gap in the late '20s, but the island has had a resident missionary for most of the time since then.

These early missionaries, by virtue of the dignity of their office and their superior education, soon attained a leading position in the island community. Such authority, which has never been granted to the islanders' own 'head man', whose chief function was to act as spokesman in trade with passing ships, had dangers as well as advantages. It is greatly to be regretted that in their natural zeal to lead the people towards a higher standard of life, some men employed methods which were neither successful nor wise.

But it was not until the 1939-45 war that the impact of the outside world upon Tristan became great enough to have much influence on the islanders' way of life. During the war a Naval garrison occupied the island, the station being officially known as H.M.S. Atlantic Isle, and afterwards the Weather Station which they had started was continued by the South African Government. This alone might not have made much difference to the economy of Tristan, but in 1949 a company was formed to exploit the crawfish (known in the trade as 'rock lobster') that abound in the shallow waters around Tristan and Gough. The Tristan da Cunha Development Company, to give it its full title, employs many islanders as fishermen. They chiefly work from the shore, and bring their catches to the factory which has been built at Big Beach, in the north-west corner of the island. But some islanders have been employed on the two refrigerator ships *Tristania* and *Frances Repetto* which come out from Cape Town each summer and spend about six months around the islands. These two ships bring out stores and mail, and this establishment of regular communications has done much to revolutionise island life.

Today Tristan is administered, under the Colonial Office, by a resident Administrator. The island also has a clergyman, a schoolmaster, a doctor, a nurse, and an Agricultural Officer. The South African Government, who operate the Weather Station, maintain a meteorologist and a radio operator. The Company has a resident manager and accountant. It is customary for these officials to bring their wives and families with them, and the presence of this little community has had a direct influence on the life of the island as a whole. A store has been opened, and many imported goods can be bought there with the money which the islanders receive as wages for their fishing.

But the islanders themselves still play a large part in their own government. The Island Council, of which the Administrator is Chairman, includes the chief man and woman, and a number of other men and women elected by the community. The outside world is represented by the doctor, clergyman, senior Company official, and meteorologist. The laws and ordinances in force are those of St. Helena, but as there is hardly any crime, nobody worries much over the detailed provisions of this legislation. The most recent ordinances made for Tristan have been concerned with the protection of wild life. There is no gaol on the island, though one Administrator is reputed to have considered building a squash court which could be used as a prison if the worst happened.

These post-war changes have obviously had a deep influence on the fabric of island life. But the islanders have withstood the many stresses to which they have been subjected, and have shown remarkable powers of adaptation. At the present time there seems every hope that the present careful and considerate administration will achieve its aim — a Tristan in which a new prosperity is blended with the many virtues of the old independent Settlement.

This, then, was the island to which we came on October 1st, 1955: a place of great natural beauty, with a fascinating history and a friendly people. Having set the scene, I can now return to the story of our own experiences.

CHAPTER THREE

Island Holiday

ALL aboard *Magpie* was well-organised bustle. The first longboat to come alongside had brought the Administrator of Tristan, Mr. P. R. Forsyth Thompson (soon to be known as 'Pat'), the Rev. David Neaum (known by us, at any rate, as Padre), the doctor, Dr. K. J. A. Fawcett, and the chief islander, Willie Repetto. The quarter-deck became filled with people greeting one another, shaking hands, discussing arrangements, and preparing to scramble down the short ladder into the boats. Allan Crawford stood chatting enthusiastically to two islanders, evidently old friends. The Archbishop was to be seen sitting in a contraption designed to transfer him from ship to longboat so that he did not need to balance on the end of a swaying ladder and wait while a boat rose and fell beneath him. The central feature was a chair, with poles lashed fore-and-aft, and with cables attached so that the whole, with its archiepiscopal cargo, could be lowered from a davit. It says much for the archiepiscopal character that he regarded the whole procedure with amusement. 'I don't think this is really necessary,' he commented, 'but I suppose it is good for your television!' James leaned outboard so enthusiastically, in order to record the transfer of His Grace to the longboat, that he nearly transferred himself to the broad Atlantic.

Robert had arranged that only two of the Expedition, Nigel and Philip, should remain aboard while our cargo was being off-loaded. The remainder went ashore with the first two longboats. On our way we passed a dark, untidy little craft anchored offshore, a wooden ship whose decks were cluttered up with dinghies and hawsers, and whose general appearance seemed somewhere intermediate between that of a derelict Grimsby drifter and a Chinese junk. It was hard to realise that this was the fishing vessel *Frances Repetto* which spent many months in each summer in the stormy waters around Tristan and Gough. It would have seemed even more strange could we have foreseen that within six months that ship was to become so familiar as to be the standard by which we should judge other ships, and that her apparent untidiness would be forgotten and be replaced by an admission of her real efficiency. But of her, and of her company, more anon.

A Tristan da Cunha longboat is a remarkable craft. Its pattern is undoubtedly that of the old open whaling boat, also the parent of the modern Naval whaler. These boats are about twenty-four feet long, and they have a frame of timbers, but the shell is of painted canvas stretched tightly over the frame. They are normally coloured white, with red, green, or blue bands along the gunwales. This method of construction is not only economical of precious timber, but renders the boats lighter, and much easier to haul up on a beach, than a wooden boat would be.

The longboats are owned by their crews in partnership, a boat usually belonging to about six men. They are propelled by oars when working between ship and shore, and are steered by an oar lashed to the stern-post and used instead of a rudder. But on long voyages at sea, such as the regular journeys to Nightingale and Inaccessible Islands, twenty miles away, they fit a rudder, and hoist sail if the wind is at all favourable. The longboats, however, have no depth of keel, so that they cannot sail very close to the wind; but with a fresh breeze from astern they are capable of six or seven knots and have been known to give the fishing ships a close race.

Freed from the bustle of the frigate, and still to be engulfed in the even more hectic activity that awaited us ashore, we gazed curiously at the crews of our longboats. So these were the Tristan Islanders of whom we had heard so much: a group of weather-beaten men whose dark tan marked a long partnership with wind and sea, and who handled their oars with the ease of a lifelong habit. They were not unusually big men; indeed there were all sizes among them. Some had the dark hair and hooked noses familiar from photographs, but Johnny Repetto, steering in the stern, had a fair complexion and light sandy hair which would have looked thoroughly in place in the Western Isles. As we passed the *Frances Repetto* and came close to the beach, we could see what seemed to be the entire remaining population of Tristan gathered on the grassy banks atop the cliffs or in front of the Big Beach canning factory. The men were all on the beach itself, preparing to work the boats or to carry the stores up from the landing-place to a point well clear of the sea. The women kept apart from the men and stood in little clusters, their bright dresses and head scarves adding colour to the green, black, and brown mosaic of the landscape.

As the beach came nearer, the crew ceased rowing and held back on their oars. Despite the calm weather, a long, low swell was running, and we had our first experience of waiting for a 'smooth time'. The boat lay off while several swells ran past, to break in a flurry of foam. Then a voice from the beach called out shrilly above the deeper note of the sea: 'Come on now, Johnny, smooth time'.

The crew leapt into activity and pulled on their oars. The boat gathered speed and rushed shorewards, Johnny Repetto heaving on the steering oar to keep her head square to the beach and the waves. The keel grated on the sand, and a man dashed into the water to hitch a hawser to the boat's stem. A wave of the hand, and a winch at the top of the beach hummed into action, drawing the boat clear of the surf. Crew and passengers jumped out, and a group of men crowded round the boat, mixing hand-shakings and greetings with the removal of crates and bags.

Big Beach, Tristan da Cunha, lies in a bay where the low cliffs that fringe the Settlement plateau swing back to join the higher crags bordering the mountain behind. The beach itself is of black, fine sand, derived from the volcanic lavas which form the bulk of a magnificent cliff rising sheer for five hundred feet. At the foot of the cliffs, in the mouth of a gully dropping down from the hills behind the Settlement, stands the canning factory. It is a long, low, white building, red-roofed in corrugated iron, and surrounded with the gear of fishery: dinghies, longboats, winches, and (after a fishing day) piles of legs, heads, and miscellaneous fragments of dead crawfish.

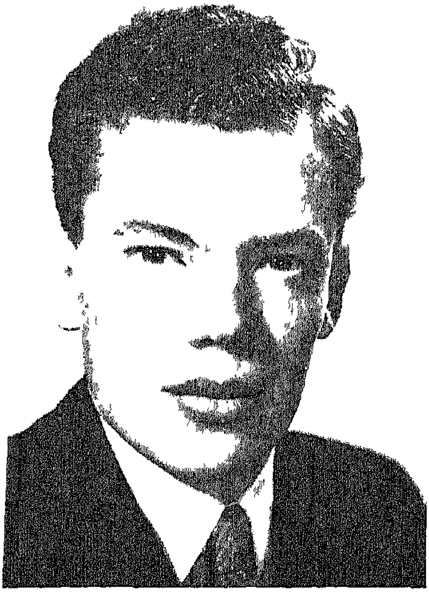
Our crates soon began to flow ashore at such a rate as to give us no time to take stock of our surroundings. Islanders, Naval ratings, and Expedition all joined in carrying the gear from the edge of the sea to a safe place higher up. For the moment it was stacked in the open, but a room in the factory had been offered us as a store, and soon a second party began to shift the smaller crates into this. The big hut sections — measuring over six feet square — were regarded as our chief headache both here and on Gough. We had, back in England, discussed floating these ashore, and they tried it from *Magpie*, towing the sections behind a longboat, and casting off just outside the breakers to let the waves drift them in. But the first to come nearly brought disaster. It was a heavy partition section, of hardboard, and it had become so waterlogged as to be almost unmanageable. As it came to rest on the beach, about ten men surrounded it, but could not shift it more than a few feet before the next wave took it and threw it over. A Naval rating just scrambled clear before the heavy mass thudded on the sand where his leg had been a few seconds earlier. At last, a combination of man-power and winching succeeded in hauling the section to a safe place. After this experience no more sections were floated; but it made us wonder about handling them with fewer men and no winch on the stony, rough beaches of Gough.

Longboat followed longboat through the afternoon. It was an education to watch the islanders as they judged the moment to launch or to beach their craft. In launching, a great crowd of men surrounded the boat and, when a 'good time' arrived, walked it down into the sea, wading in until the water took it and the oarsmen could back out on the drawback of a wave. For landing, a watch was kept on the swells as they rolled in through the kelp. A 'big time' would show as a series of dark lines far out and, as it came in, reveal itself as deep waves, some of which broke with a roar and a mass of spray. A 'smooth time' would come with hardly a disturbance in the kelp, and only as it neared the shallows would it show as small waves, breaking harmlessly and quietly. To the uninitiated the signs were hard to read; only after six months, and after some practice at landing and launching boats ourselves, did we come close to appreciating the different factors involved in what appeared such a simple operation.

After three hours all our gear was ashore and we walked up to the Settlement in the gathering dusk with a group of islanders and the Administrator. Through the village; a village with no set plan. Little stone-built cottages, one storey high, strangely Scottish in appearance, seemed scattered at random on the grassy plain, with broad open spaces between them. At each gate, and in each doorway, curious householders peered out. 'While you are here,' Padre warned us later, 'you are the island's cinema.'

We passed through the old village and bore to the right, to the 'Station'. These rows of red-roofed wooden huts, of unmistakably military plan, were built by the Naval garrison in the recent war and now house most of the people from the 'outside world' who live on Tristan. Here Administrator, missionary, doctor, schoolmaster, Agricultural Officer, meteorologist, radio operator, and Company officials live with their wives and families in a close little community linked to, but also detached from, the islanders' own village higher up the hill. For the distinction between islanders and Station is a very real one; Station people rarely spend more than three years on Tristan and, once they have left, do not usually return. The Station includes many of the public buildings of Tristan — the school, the hospital, the recreation room and library, and the post office. Here too is an open space known as the 'Quarter-Deck', which is the centre of official celebrations. Only the

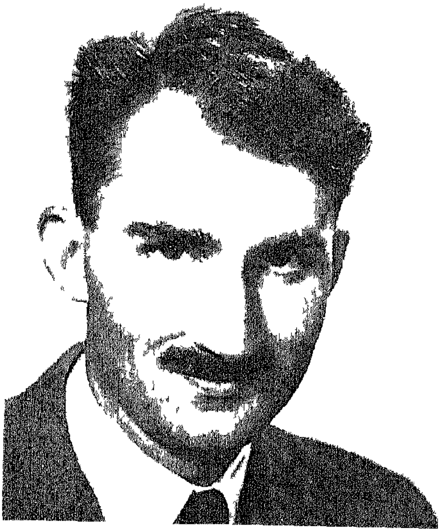
The three Leaders of the Expedition



JOHN HEANEY

ROBERT CHAMBERS

MARTIN HOLDGATE



Photographs by 'The Cape Argus'

The other members of the Expedition

PHILIP MULLOCK

ROGER LEMAITRE

J. J. VAN DER MERWE ('VAN

JAMES HALL

MICHAEL SWALES

NIGEL WACE

oldest public building, the church (built in 1927), and the most recent, the village hall (built in 1957), stand in the old village. The foundation-stone of the latter structure was laid by H.R.H. The Duke of Edinburgh during his visit to Tristan in January 1957, for which reason it is to be known as Prince Philip Hall. By strange coincidence the only other royal visitor to Tristan was another Duke of Edinburgh, Prince Alfred, who called there in 1867 and from whom the Settlement of Edinburgh derives its name.

One house in the Station was empty, and was loaned to us for the duration of our stay. It gave us a roof over our heads, and plenty of floor space over which our belongings were soon strewn. Having settled into this new home, we were able to take stock of our surroundings.

Nobody can say that life on Tristan approaches normality when a warship lies at anchor offshore. When this ship also brings eight young men of what the islanders (with some justification) called 'an h'exhibition', and also an Archbishop and two dentists, the upset is complete. Our first full day on Tristan was a Sunday, begun by a celebration of Holy Communion in the island church by the Archbishop. During the morning more and more of *Magpie*'s crew came ashore. With a little help from volunteers from the ship we spent the morning in the final stowage of our boxes to await *Tristania*. Little did we think at that time that it would be over a month before we were to move them down to the beach once more.

In the afternoon of that day a service of Confirmation was held, the little church being crammed to more than capacity. After the service, Archbishop and missionary, followed by the newly confirmed, and after them the whole congregation, walked in procession to the island graveyard, where an extension was consecrated. The land lies between the houses and the sea, in the midst of a broad green plain dipping gently to the north. It is close to the heart of the village, overlooked, as the islanders are through their whole lives, by the mountains to the south, and looking, as they do, out over the sea. How different indeed from the enclosed formality of a British suburban cemetery; yet may it not be that this reflects equally well the lives as well as the environment of those commemorated within it?

We had seen next to nothing of Allan Crawford since we landed. He had been absorbed into the community which he knew so well, and only reappeared after the consecration to invite us to visit him after supper. Arthur and Martha Rogers's house, where Allan was staying, stood at the top of the village. Like all the island houses it was long and low, with a thatched roof. It may be that the resemblance between Tristan cottages and those found in western Scotland and Ireland is due to the founder of the colony having been a Scot, but it is more likely to be the effect of a similar environment and culture. The walls are built of a volcanic ash which is so soft that it can be shaped with an axe. Each man, before he can marry, must build a house, and while he does the actual quarrying of the stone himself, he is dependent on his neighbours' help to move the stone to the site and to erect the main walls. Help is freely given, but the labour force must be fed, and this is a costly business. Often a house may be a year or more in building, work days being separated by long periods during which the builder carries on his normal occupations and recruits his resources. But if the stone-work is carried out slowly, the timber-work of the roof may prove a completely limiting factor. The 'island tree' is useless as a source of main beams, since it rarely grows straight enough or long enough. Driftwood used to be, before the coming of the Company, the sole source of large spars, and many Tristan maidens are said to have prayed for 'a good shipwreck so's Johnny and me can build a house and get married'.

Arthur Rogers's house is certainly one of the most picturesque on the island, and it is rendered more attractive by whitewashed walls and bright paint-work. A garden, bright like that of an English cottage in a traditional painting, spreads between door and gate. As we approached we saw that the front door was divided into upper and lower halves hinged independently, for all the world like those of a loose-box. But nothing remotely resembling the slender, disdainful features of a racehorse rose over the door to greet us. Martha Rogers, chief woman of Tristan, is short, and somewhat stout as well. A broad, welcoming grin; cheeks red as those of a well-ripened apple, dark hair gathered back from the forehead, dancing dark eyes.

'Come you all in,' she said, 'we's werry glad to see you all.'

We followed one another into a little room about twelve feet square. The walls were lined with boarding obviously gleaned from many sources and fitted to the frame-work as neatly as possible. Their surfaces gleamed, spotlessly clean, and their paint-work, like all island paint-work, was full of bright colours.

Arthur Rogers rose to greet us as we entered. He was the first Tristan man to whom we had talked at length, so that we listened to him attentively, and watched him carefully. His well-proportioned features and quiet, sensible speech made an immediate impression, which was to be enhanced on closer acquaintance.

All the islanders now living on Tristan belong to one of seven families, the surnames being Glass, Swain, Green, Hagan, Rogers, Repetto, and Lavarello. The last two families descend from Italian sailors shipwrecked on Tristan in 1892. But despite their late arrival, the Repettos in particular have become a numerous clan.

'Myself, I had nine children,' one of them admitted. 'Well, we got to build the Repettos h'up.'

These families have, of course, intermarried closely during the hundred and forty years of the Settlement's history. But despite fears and assertions to the contrary, there is no sign whatever of physical degeneration. In fact the islanders are remarkable for their strength, fine physique, and longevity. In the whole history of the Settlement there has been one imbecile, one man with deformed arms, and some hereditary asthma. But many an English village has a far worse record, and there can be few communities which have maintained so high a standard of health on so poor a diet. The teeth of the people show remarkable freedom from decay, and it is by no means rare to find old people with completely sound sets. This may be due to the high fluorine content of the water and of their fish diet, or to the absence of sweets and sugar until recent years. Certainly, since sweets started coming to the island in bulk, the teeth of the children have shown marked deterioration.

Because of these close relationships, and few surnames, Christian names are current on the island. Sometimes these have to be prefixed by adjectives such as 'Big' or 'Little' in order to avoid confusion, and since such nicknames are given in infancy it is not unusual to find 'Big Joe' at the age of twenty completely dwarfed by comparison with his 'Little' namesake.

As soon as we began to talk to islanders, we encountered many strange words and inflections. 'Sometimes', an island child wrote in a school essay, 'people from the outside world come to Tristan. They speak a language which is called English, but it is not the English that we know.'

'Not the English that we know.' Tristan dialect is a mixture savouring somewhat of the American South, and somewhat of the Scottish. Its past tense has become very strange. 'When you done went down Gough', said one person, referring to our departure. Similarly, as Robert Chambers put it, 'Ridge-where-the-goat-jump-off' (a place-name) reflects an historical event and not a general tendency. The conventional greeting is 'How you is?', and the polite reply 'I's fine, thanks'. Yet for all these peculiarities, Tristan speech is easier to follow than many local English dialects. For one reason it has relatively few unique words. A 'hardy' is a sea-stack, and a 'watron' a small stream. Bird has become 'bud' and asthma 'hashmere'. The letter V is pronounced as a W, so that Violet becomes 'Wilet' and Van soon found himself addressed as 'Wan'. As some girl observed to her neighbour at a dance, where his vigorous enjoyment was evident to all, 'Look out, here's Wan. You's going to get your arms pull off.'

Not all these topics, of course, came up for discussion on our first visit to Arthur and Martha Rogers. We talked about the islands and their weather and customs; of the people and of the Company. For the first of many times, Gough was discussed with people to whom it was a commonplace part of everyday life and not just a remote rock in mid-ocean. We asked about the weather down there, the sea, and the beach conditions. *Tristania*, we gathered, usually went down to Gough almost immediately after she came out for the season. 'Cap'n Mohr know all ways round Gough h'island,' said Martha.

Magpie still lay at anchor off Big Beach on the next day, Monday, which was to be Queen's Day, a time of real festivity. But the weather was not so good; the wind had backed to the north, the skies were grey with a threat of rain, and the sea showed the first signs of 'making up'. A party came ashore early in the morning, but this was restricted in its numbers in case it had to return to the ship in a hurry. Queen's Day was begun by a service on the island 'Quarter-Deck'. This is a square of grass about thirty yards each way, at one corner of the Station. A flagstaff stands in its centre, beside the figurehead of a wooden ship wrecked long ago on the island, and now set up, gilded and re-painted, at the focal point of Tristan ceremonial. All the island assembled there; women and children on one side, along a grassy bank topped with flax; men on another side; scouts, guides, and brownies, resplendent in their uniforms, on the edge of the green. A Naval guard of honour was formed up behind a colour party, for one of the highlights of the day was to be the laying-up of a white ensign in the island church. The Archbishop, his robes sweeping in the fresh breeze, opened proceedings with prayers. The Administrator, resplendent in ceremonial dress more tropical in its appearance than the landscape seemed to warrant, said a few words about the significance of the day and the joy the island had in the presence of the ship. A procession followed, up through the village to the church, and the colour was laid up after a short ceremony.

By now the sea showed further signs of 'making up', and the Archbishop, the Captain, the colour party, and guard of honour were ferried back to the ship. With them went Allan Crawford, who was thereby deprived of a real chance of being marooned on Tristan. Only the sports party — for the afternoon promised sports between Island, Ship, and Expedition — and a signal party remained on shore.

The sports were hilarious. The whole island turned out to watch; the women and the men still in their discrete groups, with about twenty yards of unoccupied grass between them. There were sack races, three-legged races, and sprints (ladies only). There was a race run downhill on empty 45-gallon oil-drums (won by a Naval signaller). There was a donkey race, reserved for Navy and Expedition. Tiny but sturdy donkeys were dwarfed by their burdens, and ambled slowly round the 'course'. The crowd howled. Van was leading by a neck as they came in along the final straight, but his beast became involved in a swamp and, with Van's weight atop, came quickly to a halt. Finally, the Islanders, after a hard struggle in a tug-of-war against the Navy, succeeded in heaving the Expedition off its feet.

The sports party returned to the ship at dusk. By then the weather was distinctly bad, the sea whipping up before a freshening breeze. One of the longboats, which had taken the men out and whose crew had then stayed for a meal aboard, was nearly swept onto a reef as it came into Little Beach in the dark. After this incident the men were not prepared to go out again, and the signal party of two officers and two men, and the dentists, remained on Tristan for the night.

The evening gave us our first experience of an island dance. All the island packed itself into the schoolroom, a long rectangular hut about forty feet by fifteen. Once again the segregation of the sexes, to which we were now accustomed, was observed. All the women sat along one side on benches. As there was in fact nowhere near enough bench space, they also sat on one another's knees, the pile becoming in some places three deep. The men stood — hovered might be a better word — on the other side of the room. A gramophone provided the music. The most popular records were fast and modern, and were played at the maximum speed of which the machine was capable. The men then made a dive for the other side of the room and seized partners who, as much through convention as through shyness, hung back and had almost to be dragged onto the floor. The couples danced without conversation. The steps were new to us; they approached a shuffling walk, carried out at high speed, with turns fitted in as individual whim and chance openings in the throng permitted. Some saw in the steps traces of original waltz and quickstep, both of which had 'suffered a sea change'. Certainly the result was rich and strange. Then there were other rarer, stranger dances. There was a cushion dance, for example. This — and Tristan one day might export it to an outer world which is rapidly shedding its inhibitions — began as its name implies, with a young man holding a cushion. He danced up and laid it at the feet of the young lady of his choice. They knelt together on the cushion and kissed. She then took the cushion and, followed by him, proceeded to add another man to the party. Before long a 'snake' of men and women was weaving its way across the floor, while the crowd chuckled in anticipation of who the next of the chosen would be. The chair dance is another island speciality. It was begun by a couple who danced several times round the floor, before the man led his partner to a chair placed in the middle of the room. She remained sitting there while he went to find her another partner. If his choice proved satisfactory, she rose and carried on the dance, but if the lady was seized with real or pretended aversion, she spun the chair so that her back was turned towards the proposed partner.

More complex, and most startling of the dances that we saw on Tristan, was the performance by a pair of men, known as Black Tom. No gramophone can produce the correct music for this, and the accordion, the original accompaniment to island dances, was called into play. Two men — in this case Frank Glass and Joe Repetto — crouched to face one another, about twenty feet apart. As the tempo of the music increased they swung into action. Still in a crouching pose, Frank bobbed towards Joe, menace in every movement, his dark beard bristling, his hands outstretched as if to clasp and kill. Joe, showing all the horror which his expressive face could muster, backed away. Down the room they went, Frank advancing and Joe retreating, until, at the end of the first 'movement', they rose to their feet and jogged back along the room, smiling happily, kicking up their feet, and slapping their hands on their calves. A second and a third movement in crouching position followed. Clearly the dance was symbolic of single combat; clearly also it was of great age. 'H'old dance they bin dancing for years they dance,' said Arthur Repetto, summing it up, and somebody else added that once they used to dance it with knives in their teeth.

Next day dawned wet and rough, with a north-easterly wind which is always a bad quarter on Tristan. This wind blows full onshore at the two landing-places by the Settlement and makes both beaches unworkable. On this morning Chief went down early, and was forced to report that conditions were not fit to take the Naval signal party and the dentists back to *Magpie*. The ship herself was rolling heavily in her anchorage, occasionally showing her propellers when her stern was lifted by an exceptional wave, and towards midday she moved away to seek more sheltered waters in the lee of the island. Another attempt to take off the shore party was made in the evening, and again the longboat crews judged conditions to be too rough. There seemed quite a chance either that the party would be stranded, for *Magpie* had only enough fuel left to stay one more night, or else that they would have to climb over the mountain to seek for calmer conditions in the lee of the island. However, at 7.30 in the morning of Wednesday, the swell and wind had dropped, and two longboats went out to the ship. Robert, Roger, James, Philip, and Van went out and shouted farewells to the ship's company. All got very wet from spray whipped off the wave-crests by the wind, and one longboat came sufficiently close to being run down by *Frances Repetto*, which had come round to stand by in case help was needed, to give its passengers some excitement. *Magpie* then went round into the lee for breakfast, and at about 10 A.M. returned close inshore, firing a salute of 15 guns for the Administrator. For ten minutes we watched her as she moved out past the cliffs of Big Point towards the open sea, and then a rain squall took her and we saw her no more.

CHAPTER FOUR

Island at Work

WITH *Magpie*'s disappearance the island's holiday came to an end, and we of the Expedition settled down to our programme of scientific work. Soggy Plain was Nigel's and my first objective. There, two thousand feet above the sea, in a hollow where the drainage off the Peak is held up by the subsidiary hill-crater of Round Hill, there is a peat bog from which the Norwegian Expedition of 1937–8 had obtained a set of samples. These samples had lain in a cellar in Oslo through the war, and by the time that anybody had a chance to examine them they had dried out and also become contaminated to such an extent as to make them almost useless.

The value of peat samples to scientists is by no means obvious. It can, however, be understood by considering the nature and origin of a material which most people only know of as a fuel and a garden dressing. Normally, when a plant dies its remains rot away almost to nothingness. But under some circumstances, notably when the air cannot reach the dead plants, rotting is prevented. This happens in waterlogged places, where the dead plants sink into ooze or water, which contains practically no oxygen. The plant remains are therefore preserved, and over the years accumulate as peat, which may be of considerable depth. At the surface the remains are fairly fresh, but the lower down one digs the older the peat which is encountered, and it is nothing strange to have at the bottom of such a bog the remains of plants which died eight or ten thousand years ago. Such remains are quite recognisable, so that an examination of them will tell a botanist what kinds of plants originally lived on that spot, while a study of the whole thickness of the peat also shows how the vegetation of the bog changed between its beginning and the present day.

This, however, only tells about the story of the bog itself. But all flowering plants produce pollen, which is in many cases blown from male to female flowers by the wind. Ferns produce very light spores in place of seeds, and these too are wind-carried. Now, these pollen grains and fern spores are also preserved in peat bogs and, since they are wind-carried, the pollen preserved in a bog will come from a large area of the country round, not just from the bog itself. So, by studying samples of peat from a bog, taken at different depths, and by looking at the pollen preserved there, it is possible to identify the kinds of plants that have grown in the neighbourhood since the bog began. For *nearly all flowering plants have highly individual types of* pollen.

The samples, which we hoped to get on Soggy Plain to replace the unsatisfactory Norwegian material, would therefore, or so we hoped, give some idea of the history of plant life on Tristan. Further samples, from Gough, should give valuable comparative data about the history of the group.

Now these samples are obtained by using a contraption called a peat-borer. This is usually made of iron, and the business end of it is the chamber, fifty centimetres long. This is pushed down into the bog to the desired depth, is opened there, twisted round until it is full of peat, closed again (still at the same depth) and pulled to the surface in a closed state. To allow it to be pushed down to varying depths, the chamber is mounted at the end of a rod which can be extended by adding a series of sections, rather as a fishing-rod is built up. The whole instrument, comprising chamber section and about five rods, weighed some forty pounds. It was awkward to handle, angular, and heavy. It soon became clear that this was a piece of equipment which was going to make its mark on the Expedition, and it demanded and got a name — Mildred. 'After a peculiarly uncompromising lady of our acquaintance', wrote Robert, and there I will leave the matter.

We had thought it wisest to have an islander with us on this first major journey on Tristan, partly as a guide and partly to help carry our gear. Norman Swain had been suggested by Chief as the best man for the job, and he had agreed to come, together with Herbert (Harbert, in island pronunciation) Glass. But two days passed, and on both of them Norman said the weather was unsuitable. On the first we agreed and waited. On the second, with our time running short (or so we thought), we set out alone. We — that is Nigel, Robert, and myself — took, besides Mildred, the usual camping impedimenta of tent, food, and our own clothing.

The way to Soggy Plain (as the map shows) runs for the first few miles across the level plain west of the Settlement. The track winds through a narrow defile between the main slopes of the Base and the detached secondary crater-cone called the Hillpiece. It then passes close to the Potato Patches, in the shelter of the Hillpiece, and strikes off to the south. At last, it comes to the place where the Lowland Plain narrows, and the slopes of the Base swing out to meet the shore and fall in high cliffs. The way to Soggy Plain then turns to the left and climbs up these slopes. The ascent is over grass; steep, terraced by sheep, and on one side eroded in a great scree shoot which scores a red gash down the green hillside. It is a long, dull ascent at the best of times; two thousand feet of steady slog, steepening towards the top, and becoming wetter and encumbered with tree-ferns. With Mildred, with packs heavy enough anyway, and with unfit muscles, it was very tedious. At last, however, we scrambled up the final steep little cliff-brow and looked over the edge onto the plateau of the Base itself.

It was warm and sunny here, for we were in the lee of the island, and the clouds that spread over the sea were broken by their passage across the barrier of the Peak. Far below, the Lowland Plain spread out, the Patches showing as dark squares and the outflows of the gulches standing out as furrows running from the mountain-foot to the sea. The sea itself was a clear blue, except along the shore where the red border of the kelp was edged with the white of breaking waves. The *Frances Repetto*, fishing off Anchorstock Point, was a toy, her dinghies the smallest of specks around her. A group of five whales basking just outside the kelp were clearly to be seen as short, dark lines, while every now and then one would turn and show the form of its flukes as it nosed towards the bottom. Nearer at hand, many birds were soaring along the edge of the Base, supported by the up-current along the cliff-tops. There were Sooty Albatross, known on Tristan, from their cry, as Peeoos; and there were Yellow-nosed Albatross, known all over the Southern Ocean as Mollies or Mollymawks. Both these birds were most impressive to us, who had only known the smaller and less beautiful gulls and gannets which take their place in the north. The Molly has a wing-span of about eight feet; it is snow-white on the underside of body and wings, but dark-grey shades into black on back and upper wing surface and its head is a delicate grey. Its beak is dark, but with a bright-yellow line along its upper surface, giving it its name. The Peeoo is a uniform dark brownish-black, all over, except for the fringes of its eyes which are white. But these descriptions can convey nothing of the grace and real beauty which these birds share with all the Albatross tribe, and even the photographs can do little more than hint at these things.

Behind us, as we sat at the crest of Burntwood (for so the slope is named), the plateau of the Base stretched evenly away into the distance. Its surface seemed to be fairly smooth, but the thick cover of island tree and tree-ferns hid what dips and ridges there might be. We rose to our feet, hoisted the burdens on our backs again, and went on. Robert took the lead, bearing Mildred. Nigel followed, and I brought up the rear. The 'path', from the clear track it had been below, became now narrower, harder to see, and far from straight. Choosing the way of least resistance, it wound around clumps of bushes, skirted boggy patches, struck across tree-fern thickets, and rose and dropped over ridges and into gullies. It was soon clear that the flatness of this part of the Base was illusory, and before long First Gulch broke across our way to emphasise this fact.

I have said that the gulches, the drainage channels of Tristan, spread out from the Peak like the spokes of a wheel, eventually dropping over the edge of the Base in gorges and waterfalls. When full of water they are impossible to cross, and it was a threat of torrents in the gulches that had been one of Norman's reasons for advising against our coming up on this day. But First Gulch, a hundred feet deep and a hundred yards wide, was bone dry. The path dropped down its steep flanks, from rock to rock and tree-fern to tree-fern, and mounted up the farther side in a similar manner. But, awkward as it was with Mildred's four feet of angularity, the gulch presented no serious difficulties. After First Gulch, there were more humps and hollows, trees and tree-ferns. Then came Second and Third Gulches, followed by yet more uneven Base, with the same scrub and forest. On our left the broken flanks of the Peak rose into lowering cloud; on our right the land fell away gradually, with a sight of the sea and of the flat-topped outline of Inaccessible eighteen miles beyond.

At a quarter-past five, on the top of Long Ridge, we abandoned Mildred to her fate. We were still a good three map-miles from Soggy Plain, and, as we were coming to realise, a Tristan map-mile may double its distance on the ground and take an age to cross. Lightened, we pressed forward across a broad hollow filled with open scrub and the inevitable ferns. Green Hill, a mile beyond, seemed a long time coming nearer, but at last we climbed across its flanks, rounded its southern shoulder, and dropped down to where Gipsy's Gulch cuts down in a gap between Green Hill and a nameless companion on its east. Here we decided to camp. There was a good patch of flat land half-way up the side of the gulch and on its eastern bank; the upper slopes of the gulch gave shelter from the wind, and we were, we judged, within at the most half an hour's walk of Soggy Plain. We pitched the tent in a light drizzle, for we had walked through the island's lee. Supper was cold, for Mildred's weight had made a primus and fuel non-essentials. The tent ground-sheet soon proved to be imperfectly waterproof. It was not a very cheerful evening, and, as Robert wrote later, 'breakfast did not differ much from supper either in quantity or quality'.

It was a nasty, cold morning, with a light drizzle and the clouds low overhead. Robert returned to Long Ridge to collect Mildred, and, as he afterwards confessed, sat and sunned himself in the bright lee which he found there. Nigel and I struck out along the path, still faintly visible, and after another half-hour's mixed humps and hollows, boggy patches and tree-fern clumps, arrived on what was evidently Soggy Plain itself. A flat mossy expanse stretched away under the cloud to the hump of Round Hill at the far end. Driving rain sliced across it. It was cold enough to make writing distinctly difficult, and though we walked right across the bog, noting the types of vegetation present on its surface, we soon decided, wisely or not, that critical scientific work was unlikely to be carried out under these conditions. It would in fact have been well-nigh impossible to take good peat samples, for this process needs a certain amount of care, and is best not carried out with a lot of rain-water washing around on the borer and carrying miscellaneous pollen grains from one place to another. A Peeoo cried dismally from a crag high up on the shoulder of Round Hill, its call as mournful and as appropriate as that of the curlew on our own hills. We completed our rough notes and collections and turned back to meet Robert, now returning slowly from the sunshine. We sat in the tent and ate a hurried lunch, preparatory to going back to the Settlement to await a finer spell. At least it would not have been a wasted trip, for we had a camp established, and Mildred on the spot.

I was sitting there, munching cold luncheon meat and thinking how nice the evening's hot bath and hot supper were going to be, when a dog suddenly came into view through the open doorway. A yellow-coloured dog, such as the islanders keep. It was followed into view by Norman and Herbert, who had followed us when they heard that we had, after all, come up onto the mountain. In this action they gave us our first sight of the islanders' concern for the welfare of visitors, a concern which may be founded on their knowledge of the dangers which can be met with on steep and broken ground, coupled with the fact that very few of those who come to Tristan from the outside world show much aptitude for moving about on mountains. A tradition has therefore grown up among the islanders that people from the outside world cannot be trusted to look after themselves on the hill, and they view solitary excursions such as ours with anxiety.

Norman and Herbert proposed that, rather than go back to the Settlement immediately, we should descend to the Caves at Cave Point, near by. There, they assured us, was a good, dry cave, where a fire could easily be lit, where fish were to be had in plenty, and where Mollies could be cooked. The prospect seemed good, and, if the morrow should turn out fine, we gathered it was not a hard job to return to Soggy Plain and finish our work. So we packed up, left Mildred in the tent, secured the tent door, and set out. The faint path led down Gipsy's Gulch (the gulch got its name from a dog which met with an accident there), and came, eventually, to the edge of the Base. It then plunged steeply down a narrow ridge, set about with the usual trees and ferns. There was a grand view of the coastal flats around Cave Point far below, and of the steep flanks of the Base to left and right. On the right, the stream out of Gipsy's Gulch fell in a high waterfall, and on the ledges of a crag beyond, several pairs of Peeoos could be seen, standing about their nests. The Peeoo breeds on cliffs and in steep places, and its nests are harder to reach than those of the Molly, which builds its earthen hillocks in open places on the more level ground. That this difference in habits is not to the Molly's advantage was made plain during our descent, for Norman and Herbert seized and killed eight birds and took five eggs. We were a little startled by the number which they seemed to think it necessary to take, but were assured that 'these is nothing of a feed for five of us'.

The Molly is the great food-bird of these islands, though all the three albatrosses breeding in the group are eaten on occasion. But the Wandering Albatross no longer breeds, as it used, on the Peak of Tristan (the islanders having eaten them all), and the Peeoo is harder to come by because of its nesting habits. Mollies, however, are easy to take, especially since, like all the albatrosses, they make little attempt to escape when approached by man. They are, after all, big birds, and they have no natural enemies, so that an escape reaction has never become a desirable thing in their evolution. Besides the albatrosses, however, many of the smaller, ground-nesting birds (largely petrels) are or were eaten by the islanders. The Pediunker (the Great Grey Petrel), the Black Haglet (Great-winged Petrel), and the White-breasted Black Haglet (Atlantic Petrel) are all eaten, though their numbers have fallen off greatly since rats became common on Tristan. 'When I was a boy,' Chief told us, 'it was easy to get buds. You could go out for a day and come back with loads of buds. But now you can go all day and find hardly any buds at all.' The other bird taken in numbers for food is the Greater Shearwater. This species breeds in vast numbers on Nightingale Island, the total population being estimated at five million pairs. The islanders go over each year when the young 'petrels' (as they call them) are nearly ready to leave for the sea, having been deserted by their parents. At this stage they are immensely fat, and it is this petrel fat that has been used in Tristan cooking for many years. Several thousand are taken each year, but there is no sign, as yet, of harm to the population of birds.

With Mollies, however, it is otherwise, and when the Norwegian Expedition made its census in 1938 it was clear that these birds were becoming rarer every year because too many were being killed. Since then, the Administration and the Island Council have agreed on protection measures for this and other species. No Mollies at all may now be taken in the south-east quarter of the island, where nobody normally goes. In the remainder of the island they may be taken only when there is need, and the number killed must be reported to Chief or to the Administrator. In this way a main breeding-ground of the birds has been set aside as a sanctuary, and a check is also kept on the number taken. The result has been an increase since 1938, and the population now numbers about three thousand pairs instead of one thousand.

By now, assume that Norman, Herbert, and ourselves have reached the bottom of the mountain and are crossing the grassy plain towards the Caves. The Cave itself lies at the southern end of the rocky headland of Cave Point, which juts out southwards from Tristan. The land hereabouts, like that at the Settlement, is over-grazed grassland, cropped by half-tame cattle which are left unattended except for an occasional visit to shoot a steer or catch and remove to the Settlement a likely-looking heifer. The control of increase in numbers has been left for many years largely to nature, as also is the case among the wild cattle at Stony Beach on the east. Now, however, the bull which formerly ran with these cattle has been shot, and it is not intended to allow another to run there for the time being, until the range has recovered and the stock has been culled. The bare, eroding, sandy waste land on the top of Cave Point testifies to this measure being long overdue.

The Cave turned out to be sheltered, and deep, but far from dry. There were many, many drips from the roof, and the islanders quickly got a raging driftwood fire going in an attempt to dry things out a bit. They then cut up the Mollies, and the need for so many became apparent. For only five pieces were used from each bird. The breast muscles of each side made two joints, the others being the two legs and the livers. The carcasses, despite their size, proved to have very little meat on them. The remains — feathers, skins, and all — went onto the fire, where, being very fatty, they blazed fiercely. The livers were grilled on sticks held over the fire, and were very tasty. The 'cut-ups' were boiled thoroughly, together with some potatoes Norman and Herbert had brought with them, and also proved excellent. They were eaten, of course, in the fingers, and the scene, apart from the clothing of the participants, can have differed little from a supper-time scene in northern Europe ten thousand years ago. We turned in early, looking for dry patches between the drips in which to spread our sleeping-bags. Norman and Herbert, kindly but needlessly, insisted on sitting up all night to keep the fire going. Breakfast, next day, consisted of a hard-boiled Molly egg each, and more potatoes. The eggs were very good, and one egg was a fair meal, equivalent in volume to more than two hen eggs.

After breakfast the weather showed no signs of improvement. Grey rain-curtains were drifting along the edge of the Base high above, and the cloud-level was even lower than before. White streaks of falling water in the gulches testified to the rain having been heavy on the Peak. So, packing up our things once again, we set out for home. Most of the route lay along the beaches, and here the light footgear and fitness of the islanders told. For the islanders do not wear boots or even shoes when out on the hill; instead, they use moccasins of cow's hide, stretched over the feet and laced up over the top. They are not waterproof, and they grip badly on slippery grass, but they are light and ideal on beach boulders. While on the subject of Tristan footgear, island socks should be mentioned. These are knee-length, knitted of white native wool, with coloured rings worked in just below the knee. When a girl knits stockings for her boy friend the number of coloured rings is said to be symbolic, indicating the degree of her affection, while when a boy asks a girl to make him a pair of garters, this is tantamount to putting up the banns.

Norman and Herbert led off at a good pace, along under the high cliffs of the Long Bluff, and round the green, grassy flats of Anchorstock Point. They then looked at the sea with some care. For the next bluff is one of the few places where the sea washes the base of the cliff, and where one can only pass by wading. And, if the tide is high or the sea rough, wading becomes swimming, or becomes impossible altogether, and it is then necessary to climb nearly a thousand feet up the cliffs and traverse above the vertical section, joining the Burntwood path in about the middle of its ascent. Today, however, the tide was low and the sea calm. We stripped off boots and socks, and in turn waded through the ten yards of sea, picking as far as possible a 'smooth time'. Wet to varying degrees, we halted on the far side and had a second breakfast before climbing up a few feet onto the Burntwood track and striding out across the Lowland Plain, past the Patches, round the Hillpiece, and so home.

So ended our first journey on Tristan. It was a fine introduction to the island, to its terrain, its plants, its birds, — and its people. Meanwhile, those left behind in the Settlement had themselves done a good deal of exploring. They had climbed to the Base behind the village, along a spur known as the Goat Ridge; they had photographed local life, and Michael had begun to make a detailed study of the island's agriculture.

Even the briefest visit reveals that Tristan suffers from over-exploitation of many natural resources. In most parts of the world, natural forest has been the first thing to vanish before the threefold onslaught of the axe, fire, and the goat. On Tristan the axe has been the most prominent, and has been plied so heavily that in recent years there has been a threat of a shortage of firewood. The dense scrub of island tree has been stripped off the slopes leading up to the Base behind the Settlement, and from all the Lowland Plain. The few trees that survive are isolated, small, and cut back before they reach maturity, and the islanders have to range far afield for wood. If this deforestation is continued there is a real risk of landslides on some of the steep slopes, while already some gulches show signs of recent deepening. At Burntwood, at the west end of the Settlement Plain, a track down which bundles of firewood used to be rolled has broadened into a great scree shoot.

But it would be impossible to prevent wood-cutting on these slopes were no alternative supplies available. Fortunately, we were able to show that a small peat bog near the Settlement contained enough peat to last the whole place for perhaps as much as ten years. Sample turves burnt well, and there is every hope that this alternative supply will relieve some of the pressure on the woodland.

This was only one of many problems which were obvious to us when we looked around. Some of the others were so great that we could understand the despondency with which Jerry Stableford, the Agricultural Officer, spoke of them. For the agriculture of the island has declined sadly since the Settlement was founded. There was a time when every family had milk and butter, when cheese-making was carried out generally, when pigs and sheep yielded well, when eggs were a-plenty, and when vegetables were grown as well as potatoes: when, in fact, the island produced all that an English small-holding would be expected to produce. And, indeed, with such a mild climate that the grass does not completely stop growing even in winter, and with frosts almost unknown, there seems no reason why such fertility should ever have been lost. Let us at the outset say that over-population is not sufficient answer for the falling-off in farming standards. At a very modest estimate, the Lowland Plain by the Settlement alone (and leaving out in its entirety the other lowland patches at Sandy Point and the Caves) is four miles long by half a mile wide. The area — two square miles — 1300 acres — would allow five acres per head of the population of 250 islanders. Allowing five to a family, this would give twenty-five acres per family holding, not counting their share of the good grazings on the other parts of the Lowland Plain and the sheep-run on the Peak. Yet the island families during the twenties and thirties of the present century had been reduced to little better standards of living than the Irish peasantry of the 1830s, whose whole families lived on quarter-acres of land.

The answer, or part at least of it, was evident to us when we landed in October 1955. For the grassland around the

Settlement was cropped so short that the cattle wandering over it had hardly a hope of getting even a blade or two of the stunted grasses into their mouths. Over-grazing. The land was over-stocked, and there was neither hay, roots, nor silage for winter keep. Many of the cows showed their ribs through the taut skin, some were almost too weak to stand, and to make it worse some were heavily in calf. The mortality during that first fortnight in October, when the spring was still too early for the grass to begin its new growth and when the stock were at their weakest after the winter, totalled at least ten around the Settlement alone. The position was made ridiculous by the fact that there, on this over-grazed land, competing with the cattle, were not only sheep, but also geese and about fifty under-sized and little-used donkeys.

Let nobody think that this position is new. 'The Hagans have lost the grey cow they watched over with such care. They started slinging it too late, with the result that it got so bruised from the constant falls that it could not recover from them. Now they have only one left, and the Repettos only one.' So wrote Mrs. Barrow in October 1906, a winter in which the total deaths reached 370.

I do not want to give the impression that the islanders are deliberately cruel, or that they regard the heavy loss of stock as anything but an evil. But it appears that they simply lack the realisation of what is wrong, and of what might be done to set things right. First of all, remember that none of the present generation has ever known anything better; that fertile land and healthy stock are unknown to them; that they have never seen a well-farmed countryside. Then remember that their education has not been such as to make them want to read about farming methods in other lands. And then remember that even if they did, they have no reason for belief that other people's ways would work on Tristan. Add to this situation the natural conservatism of farmers the world over, and the result is fairly easy to understand.

But what is being done about it today? First, the

Colonial Office has, since 1948, maintained an Agricultural Adviser on the island. He, together with the Administrator, has done what he can to open the islanders' eyes to the fact that the present wastage is unnecessary. It has been a slow process; the introduction of new ideas into such a community always is. Especially it is hard to persuade a people to reduce their stock in a land where many cows are accounted wealth. But it has now been agreed among the islanders to kill the geese which are contributing to the over-grazing. Recently a grant has been made to allow the subdivision of the Lowland Plain into large enclosures, and this in turn will permit some rotation of the grazing. The improvement of the stock has been aided by the importation of a Hereford bull, and also of pedigreed boar and ram. And the sheep pasture on the Peak is now being developed, and promises well.

So far I have only talked of the stock on Tristan. What about the crops? The staple crop today, as it has been in the past, is potatoes. These are grown on the 'Patches' about two miles to the west of the Settlement, where there are some pockets of deep soil in the lee of a group of low hills. The Patches are each about thirty yards square, fenced by dry-stone walls. They cluster together, in three or four large groups. Each family owns between one and eight of them, and work there is carried out by the whole family together. The potatoes used to be planted in single rows in the normal European manner, but recently — perhaps a legacy of a year with poor seed — it has been usual to plant them in double rows. The plants are thus set close together, and the yield is often inferior to that on the old single-row system; a fact which is now being appreciated. The Patches are normally left bare after the main crop has been lifted in January or February, though Jerry Stableford now encourages the growth of some later crop which will serve as winter keep for the cattle. The method of manuring the Patches — the old method at least — is another example of the wasteful practices of island farming. For the fertiliser used to be turf; turf stripped off the near-by land and piled onto the Patches. Whatever its use as a fertiliser, this led to a progressive reduction in the soil depth of the land from which it was taken. Now, however, there is some use of crawfish offal, and seaweed. For many years the islanders have been in the habit of making a journey to Nightingale Island for guano from the penguin rookeries there. But these rookeries are exposed to the rain and wind, and there is precious little value in the dirt and feathers brought back. Recently some better stuff has been collected from Gough Island, where it comes from small rookeries in shallow caves protected from the rain. This genuine guano has had an excellent effect, but unfortunately the deposits are too small to last very long.

In sharp contrast to such serious studies, Michael spent a good deal of time in watching whales. There can be few places in the world where this pursuit is as easy as at Tristan, for, during the early spring months, many Southern Right Whales frequent the shallow waters along the coast, and breed there. They cruise along slowly, in and around the kelp, in groups of up to seven animals. One female in particular was recognisable by a white patch on her side, and Michael was able to watch her on a number of different occasions. Once he saw mating take place between this cow and a bull which the islanders had reported as haunting the same place for the past three years. In mating — and there can be few subjects which have led to such speculation as the mating of whales — the bull and cow lay side by side at the sea surface, the cow turning onto her side as the bull approached. Several of the cows were accompanied by calves, and once or twice what may have been suckling was seen.

The whales kept to their groups, and moved round with the lee, keeping to the sheltered water. The sound of their blowing, which resembles the noise made when a baulk of timber is dragged over a rough concrete floor, was very loud, and echoed back from the cliffs behind the Settlement. On a still day you could hear the whales blowing from a distance of two miles or more. One habit which excited great interest was often seen among whales in the kelp. A whale would turn and dive slowly, its huge tail flukes standing well clear of the water. Usually the whole animal did not submerge, and the flukes stayed in sight for minutes at a time, before slowly subsiding as the animal came back onto an even keel. Now nobody knows quite what this performance is for. Some have said that the whale is rubbing barnacles off its head, against the sea bottom, and when Michael saw a whale remaining stationary with the waves rising and falling against its side, it did seem that it was anchored against something firm. But the performance is indulged in so often that it is hard to believe that it is always an anti-barnacle campaign, and it frequently takes place in water too deep for even a whale to span.

The whales show some interest in the dinghies when the islanders go out fishing, though they have never been known actually to upset a boat. 'Fishing days' are held on the island whenever there is a calm lee at or near the Settlement. When such a day comes the 'fishing bell', a tube of iron hanging from a post in the middle of the Settlement, is sounded soon after dawn. Practically all the men of the village turn out, for on a good day it is possible for a skilled fisherman to earn as much as five or six pounds. The fishing — and it is of course for crawfish, not true fish — is done from little thirteen-foot wooden dinghies. Each dinghy has a crew of two, one man rowing and the other managing the nets, and it is usual for the pair to alternate in these duties from day to day. Having selected a likely fishing-ground, where there is little current, reasonable depth of water, and a good record of past catches, each dinghy sets out a number of baited nets. These are of open mesh, and hang from an iron hoop about three feet in diameter. The bait — fish, penguin, or other meat — is held in the centre of the hoop by strings, and the whole is lowered to the sea-bed on a long rope, the top of which is buoyed by markers of cork coloured differently for each pair of fishermen. The dinghies set out their nets in a rough ring, and on a good day aim to lift them once every twenty minutes or half an hour. Having set out about eight or a dozen nets, they return and pull up the first one, which, if the spot is good and the 'fish' are biting, should be half full. It is then re-baited, lowered, and the next net visited, and so, through the day, the nets are lifted and emptied in rotation. The nets are usually set in between ten and thirty fathoms of water, and pulling them from these depths, often through entangling kelp, is very hard work. The catch is tipped into a net spread over the bottom of the dinghy. When fishing from the shore at Tristan, the catch is collected by a longboat, towed from dinghy to dinghy by the Company's motor-boat; when fishing from one or other of the ships, the dinghies row back to the ship when full and their haul is winched on board. On a really good day a pair of men can catch two or three dinghy-loads each weighing over a thousand pounds. They are paid by weight, and if the catch exceeds a certain figure the pay on the whole day's work is doubled.

The crawfish caught on Tristan are processed and canned in the Big Beach factory. The island women do the work of 'tailing' — that is, breaking or cutting off the tails which alone are canned —, 'worming' (gutting), and shelling. The tails are then washed, sealed in small tins, and the whole sterilised. On the ships, however, the tails are not shelled or canned, but packed in boxes and frozen.

Roger and James spent a whole day filming and photographing this fishing, which has made such a change in island life in recent years. James returned very wroth with Arthur Repetto, who had accelerated the motor-boat just as the film camera was brought to bear, and tipped James backwards off the thwart of the longboat which was in tow. The photographers also recorded many island crafts, including the carding and spinning of wool. Martha arranged this demonstration for us, summoning a great flock of nieces and great-nieces. A meeting of the Island Council was filmed and recorded, as were many other aspects of local life. On two evenings some of the older men came and sang songs that have been handed down on the island from the early days of the Settlement. They are a strange mixture, these songs. There are some which speak of the War of American Independence, and of times when

> . . . the blood runs streaming,
> Streams and streams at Bunker's Hill,

and when 'the sons of Freedom' are exhorted to remember 'the lives that were lost in Americay'. Yet other songs are as emphatically English, speaking of Easter Day on Westminster Bridge, or our old friend 'pretty Polly Perkins of Paddington Green'. Georgie Swain flung himself into these songs with great vigour, and was ably supported by his companions. But Tristan has never had a poet of its own, and these songs, interesting as they may be, are interesting as survivals of alien tradition rather than as natural growths. It is doubtful if the future will ever hear songs of 'Gus Rogers and his Mermaid', or of 'Shirt-tail Gutter', composed by a local bard.

But a return to Soggy Plain was an essential for Nigel and myself, however interesting the Settlement might be. On October 10th the wind at last went round into the west, and everyone, including Andy (Mr. R. J. Andersson, the meteorologist) and the islanders, forecast a spell of fine weather. This spell, of course, chose to come in just as we were sitting down to an excellent lunch with Pat and Joy Forsyth Thompson, and it set us scrambling up Burntwood at four in the afternoon, to the horror of Adam Swain (Norman's son) who was out looking for a heifer near the bottom of the ascent. Once again the tops of those interminable slopes were warm in sunshine, and, on reaching them, the whole upper four-thousand-foot cone of the Peak was full in view, with fresh snow gleaming upon it. As the evening came on, and we paced along past First, Second, and Third Gulches, the light on those snowfields turned through orange to a traditional alpine rose-pink. Dusk was upon us as we turned the shoulder of Green Hill, and torches were called into play on the last half-mile of track down towards Gipsy's Gulch and the tent. During the following two days we secured our samples, struck camp, and returned.

Meanwhile Michael had also made a long journey on the mountains, in company with John Lavarello, the leading naturalist among the islanders, who is to feature in much of this tale. They appeared out of the mist that hung over Soggy Plain while Nigel and I were at work there, and disappeared towards Stony Beach Gulch farther east. On their journey they saw several of the Tristan Thrush, or 'starchy', which alone survives of the three species of bird known only from Tristan. At Stony Beach they inspected a small rookery of Rockhopper Penguins, and viewed, from a greater distance, the wild cattle which roam on the slopes there.

Despite the many useful activities which were filling our time, the season was slipping away and Gough seemed no nearer. Ten days — all that we had expected on Tristan — had now passed, and still *Tristania* lay in Cape Town docks delayed by engine troubles. Robert, especially, found the delay more and more worrying, recalling the way in which the Norwegian Expedition of 1937–8 had never got to Gough at all. On the 12th he sent a cable to Allan Crawford:

> 'DELAYS DESPERATE CAN PORTMET ENQUIRE POSSIBILITY TANKERS GOUGHWARDS CARRYING MAXIMUM NINE MEN AND DINGHY FEW SMALL STORES FOR QUICK LANDING.'

But the answer, arriving next day, was definite:

> 'CONSIDER ABSOLUTELY NO POSSIBILITY OTHER TRANSPORT TO GOUGH TRISTAN DEVELOPMENT COMPANY FULLY COOPERATIVE STOP SHIP LEAVES PROBABLY NINETEENTH SUGGEST SPEND WEEK NIGHTINGALE REGARDS.'

'Suggest spend week Nightingale.' Well, the proposal certainly had its points. No accurate map of that island had ever been produced, there was a peat bog eminently 'mildredworthy' in the interior, there were plants, bugs, and beasties. . . . Robert decided to approach Mr. M. T. Scott, chief officer of the *Frances Repetto*, as soon as the ship was next at the Settlement.

In the meantime, the whole party except for Van and James decided to go over to Sandy Point on the east of Tristan, and spend a night in the huts that had been put up there by the Administration. For Sandy Point was the site of experiments in growth of timber trees and of stock-breeding. Part of the attraction lay in the route to be followed, for this was the celebrated Ugly Road itself.

Gilbert Lavarello came with us, at Jerry Stableford's earnest request, to see us over the ugly section of the route. In fact, the path over the slopes was easy to follow once we had found the beginning, and the route as a whole proved exhilarating. For, to the east of Big Beach, it is not possible to walk along the cliff bottom, as it is between the Settlement and Cave Point. Two headlands, Big Point and Rookery Point, jut into the sea, and deep water runs right up against the bases of the sheer cliff. To pass these headlands, the path climbs high up along the slope, running above the sheer lower section, and winding on an even contour across gulches and ridges. It is a fine path for a view, a thousand feet above the sea, with the slopes mounting another thousand feet to the south to culminate in the edge of the Base. Scattered trees scramble up the hillsides, and ferns and grasses form a blanket only broken by the rock-faces in the gulches and by the occasional scar of a land-slip. The Ugly Road proper is only a passage of a few yards, along the side of a rock slab at a steep angle, where the islanders have hammered in two pitons as extra holds. These are not really necessary in good weather, but they are a help, especially when heavily laden. There are some places on the path where a fall would last a long time, and it is a nasty enough way in a high wind. Arthur Rogers was blown from the path on one occasion not long ago, landing shaken but unhurt in the bushes below.

The path over Rookery Point brought us down onto the shore, and the rest of the way to Sandy Point lay along a monotonous stony beach. Shirt-tail Gutter lay at the next headland, where a waterfall drops in a long, green, mossy slide over a five-hundred-foot cliff. Here a party returning to the Settlement lit a fire to dry their clothes after a soaking, and one stood so close to the flames that his shirt-tail caught fire. Hence the name. Not far along the beach is a place marked on the map as 'Down-where-the-minister-land-his-things'.

'They said it was too rough for us to land at the Settlement,' wrote Mrs. Barrow, wife of the minister 'who done land his things' at this spot, 'but that if we went back another eight or nine miles round to another part of the island, landing would be possible. It did not take long to steam back, but it took many hours to land the luggage. This was done under considerable difficulty, a dangerous swell running onto a steep pebbly beach.'

We passed along the 'steep pebbly beach'; past where the *Frances Repetto* lay off Blacksand Beach, fishing; past Big Gulch, where a small penguin rookery demanded a visit. Sandy Point came into view at last, and we wandered up through a field full of hopeful-looking young trees to the huts above. It was at Sandy Point that we first met really natural forest in its thickest form, for above the Point the edge of the Base is only about eight hundred feet above the sea, and the Base itself thus supports dense forest. The island tree grows sprawled along the ground, its trunks half buried in accumulated litter and hidden from view in a dense under-storey of ferns. Only the main branches of the trees ascend, to form a canopy some twelve to fifteen feet above ground-level. The branches of adjacent trees often meet and intertwine, while it is quite normal for the prostrate trunks to run below the canopy of two other trees before branching into their own upward-growing shoots. Where hollows open out between this tangle of boughs there is a growth of tree-ferns almost as thick, and we soon realised that if any acreage of Gough were covered by this sort of jungle, progress there would be as slow and difficult as tradition made it.

In the forest, the Tristan Thrush was quite common and sang cheerfully from the branches. Collecting insects from below the canopy, I tried to jot down what the song sounded like. 'Pseeooee, pseeooee, pseeooee, psee-ptsee', it went. 'Pseeooee pseeooee, pseeooee psee-teoo.'

All the time we had been on Tristan, we had wanted to go up the Peak, and now that the more urgent journeys had been made, the project returned to the front of our minds. It was on October 18th that we, together with Pat Forsyth Thompson, actually left the Settlement for the climb, and what follows comes from the account Robert wrote in the Expedition log.

'Just as Pat and the Expedition were walking through the village the gong was sounded for a Fishing Day. John Lavarello and Arthur Rogers, who were to have come as guides ("to carry me", as Pat said), understandably decided to stay behind and make more money.

'At 0620 the party of nine of us left the village and struck up the grass slopes on the right-hand side of Hottentot Gulch. Just below the Hag's Tooth' (a pinnacle of rock, named by us from its resemblance to the larger feature of this name on Gough) 'there was an interesting and reasonably exposed *Phylica* traverse followed by a ridge which was pleasing though heavily vegetated. Along the path which followed the side of the gulch there were some fine views of dry waterfall beds. Scrambling up the side of the ravine Philip found a route which gave James a shot of Van spread-eagled ("Just hold it, Van"), which, as the staff of *Argus* would say, was full of human interest.

'Always keeping Hottentot Gulch on our left, we walked from the Base up a steepening ridge covered by mosses, lichens, and grasses, and were presently enveloped in cloud driven by a strong, gusty wind. At about 5000 feet the mist cleared, and the view of an endless plateau of cloud stretching to the horizon, but absent in the lee of the island, made a memorable experience. We were then tramping up slopes of cinder cut up by dykes radiating from the summit, which we still could not see. The *Frances Repetto*, anchored off

Big Point, was a small black oblong just visible below. The rubble was red, brown and black, and contrasted vividly with the yellow-green of the mosses which clung to the dykes, to give an almost lunar landscape, an impression heightened by the patches and strips of snow in the diminishing gulches.

'Because of the fine weather, and the obvious way, the party split up. Roger and Michael reached an ice-splattered rock on the edge of the crater at 1140, and Nigel and Martin were soon with them. This party then crossed the crater and climbed the final peak on the far side, reaching the top by 1200, having taken five and a half hours. Pat gallantly gained the summit after six hours, followed by Robert, Philip and James, whose appearance of attending a race meeting' (he wore a cloth cap) 'was maintained almost to the end of the day. Van fought hard against avoirdupois and Newton. When asked how things were going, he replied with a wealth of expression, "I'm suffering", which he clearly was.'

The crater lake was frozen, and the ice covered by snow, which also covered most of the ground within the crater hollow. Bathing, even had anyone felt inclined to brave the cold wind, was therefore impossible. The descent passed quickly, and all except Nigel and myself, who stayed on the upper slopes to look at the vegetation, were back at the Settlement before 6 P.M.

We were greeted on our return by the news that the *Frances Repetto* might be going to Nightingale early the following morning, and that we should be on the beach at 4.30 A.M. There was a general rush for an early bed, and those who were going (Robert, Nigel, Michael, Roger, and myself) got up at 3.20 and packed before tramping down to Big Beach to await the dawn. The party bound for Nightingale had grown to large proportions and now included Pat, Joy, Arthur, and Martha. The ship's lights could be seen away off. Slowly the dawn broke, and soon afterwards the ship moved in, steamed past, and disappeared to the westward. There was some puzzled comment, and then some bad language. No signal came, but it was very obvious that Scottie for some reason was not going to Nightingale, or if he was, was certainly not going to take us.

So far, our journeyings had been successful and safe, and had done much to convince the islanders that we were really able to be trusted to look after ourselves on the mountains. But their lingering doubts that all people from the outside world were really lunatics in disguise were reawakened with a jolt on October 20th.

Roger had been interested for some time in a type of lava which occurred as fragments at the bottom of a cliff near the Settlement; a cliff from the base of which the 'Big Watron', main water-supply for the village, broke out. Finally, he and Robert resolved to climb up and have a look for the origin of these fragments. They started from the base of the cliff at a quarter to five in the afternoon, and found the route sufficiently rich in holds for there to have been no difficulty — had the rock been firm. But it was not, it was far from firm. Holds came out on the least provocation, and it was difficult for Robert, who was leading, to avoid sending showers of debris down on Roger's head. What seemed excessive slowness was necessary, and by quarter-past six, when an apparent line of traverse off the cliff proved impracticable, it was plain that two members of the Expedition were soon going to be benighted in full view of the village, who were now watching the spectacle with very real concern. Remember that there are two things that Tristan Islanders simply do not do. They do not climb about on cliffs, and they do not allow themselves to be caught out on the mountain after dark. They have a horror of being benighted, which is hard to understand in view of the mildness of their climate. However, here were two people proceeding to do both these things in the most obvious manner possible. Every door was filled by people, standing and watching in silence. Some of the women were beginning to weep in anticipation, for they are an emotional people, and to them Robert and Roger were as good as dead! We too were watching, as the yellow and the grey dots of their anoraks crept slowly higher up the wall. It seemed that they might just get off before dark, so three of us grabbed torches and climbed swiftly up the broken grassy slopes beside the crag. It got dark, with no sign of them. Then another torch came up to join us, borne by Joseph Glass, who, of all the islanders, best knows the cliffs running up to the Base. He went round a corner and found a ledge from which he could talk to Robert, ten feet below him. Robert was in the middle of signalling with his torch to those at the cliff-foot, and had in fact spelt out in slow Morse, 'Benighted do not thin'. 'K' defeated him, and he called down to Roger, who, unable to remember it either, dug out a crib-sheet from his pocket. 'Dar dit dar,' he called back. Then a voice from ten feet above Robert's head broke in: 'This Joseph. No one tell me to come, but I come of my own.'

Robert cast his rope up to Joseph, who passed it along the ledge. He waited then for more reinforcements, and when Jerry Stableford, Andy, and Gilbert Lavarello also arrived, the five who were at the top were able to pull Robert up with ease. The rope then went down for Roger, who tied himself on and followed. By now the whole plain below was alive with lights. Some shone out from the houses, while, away beyond, an Aldis lamp was flashing rapidly from the radio station. Philip, half-way up the cliff, was answering with his torch, and passing such information as he had. Practically the whole population of Tristan was waiting at the bottom when the climbers scrambled down the slopes beside the crag. Their quiet concern gave the incident a far deeper significance than it would ever have had if there had been no onlookers. One felt sad and ashamed, not over the mistake itself — for most climbers make errors of judgement from time to time and as things go it was a very trivial affair — but because of the grief which it had caused to so many friends.

On October 24th the news came that *Tristania* had at last left Cape Town, and on the 31st she arrived at Tristan, in the midst of a northerly 'blow' which drove her to seek shelter in the lee off Trypot. Were I to write of all the daily activities of this period, of the journeys and visits, of the hospitality we received, of the party we gave, and of all other doings, this would become a book on Tristan. Whereas you, reader, must be wondering when we are going to get down to Gough.

We, of course, had been wondering this for some time. We celebrated our departure — in anticipation — by giving a dance for the island on the 28th. Whoever gives an island dance is expected to open it with a solo performance, and in our case a chaotic rendering of an eightsome reel was rendered more comic by the fact that the 'women' of the party were all bearded. The whole dance was indeed hilarious. 'Thassa first time I see dancin' and smilin',' said somebody afterwards, for even the customary silence and shyness could not withstand an elimination dance in which half the men were disqualified for wearing long underpants and the rest for never having been up the Peak. We received a most generous parting present of four pairs of island socks each, knitted by thirty-two Tristan ladies. These were especially welcome since the socks we had brought from the outside world were already shrinking badly and fast becoming unwearable.

Then, as soon as it looked as if we were really going to get away, the weather deteriorated. We moved all our stores down onto the beach on one day, only to have to move them up again when an increasing swell and a north-westerly gale put an end to working and sent the seas sweeping up the sands. As Robert wrote in the log, 'Shades of the Noble Duke of York!' We had by now decided that we could learn much from the islanders, and that two of them would be very useful to us on Gough. Experience being what we wanted, we asked two of the older men — Arthur Rogers and John Lavarello — to come with us, and they agreed. Tristan had also changed our views about the use of boats on Gough. Way back in England, and how long ago and far away it seemed, we had been advised against using a dinghy on Gough, in view of the dangers everyone thought we would meet. Now, having seen something of Tristan waters, we had changed our ideas completely and, especially since we were taking two islanders as well, thought a boat would be well-nigh essential. Otherwise, not only would we be cut off from a good deal of the coastline (Tristan opinion was adamant that we should not be able to climb down many of the cliffs, or walk round many of the headlands), but we should have no means of reaching the fishing ships. As to the weather: 'When 'tis smooth 'tis smooth,' said somebody, 'but when 'tis swelly 'tis swelly'. This, being interpreted, seemed to mean that we should be able to use a boat from time to time. The landing in The Glen was said to be good, and many islanders had gone ashore in other places.

We had therefore decided to take a dinghy, and Jerry Slate, the Company manager, had very kindly found one for us. It was a thirteen-foot dinghy, built in the island style with canvas over a wooden frame. It was re-covered and re-painted for us, and was a cheerful sight when Joe Repetto rowed it out to *Tristania* on Saturday, November 12th. For, on that day, our stores and ourselves were at last taken aboard, and an end had come to the six weeks of waiting.

CHAPTER FIVE

The End of the Road

Tristania is a steel-built ship of some 600 tons, converted for fishing by the insertion of a refrigeration plant and the addition of a good deal of superstructure. She is commanded by Captain Otto Mohr, sometime of the German Navy, and her officers include Englishmen, Germans, and Norwegians, most of whom are now naturalised South Africans. Her fishermen and crew are an even stranger mixture of races, so that the ship as a whole is probably as perfect a microcosm as it is possible to find.

We arrived on board at about four o'clock in the afternoon, but were not due to sail for Gough until dawn on the following day, for the trip takes almost exactly twenty-four hours, and Otto Mohr wished to arrive with plenty of time to land us and our stores before dark. While we lived on board we were accommodated in the processing room; our air beds were inflated and spread on the deck and our kit-bags piled along the side of a bulkhead. The room bristled with oars and other fishing impedimenta, which, when we first arrived, were being examined by various doubtful-looking characters of even more doubtful pedigree. There were tall Negroes, little Malays, and 'Cape Coloureds' of all sizes and descriptions. They proved, however, to be a cheerful and pleasant-spoken crowd despite their piratical appearance.

At five o'clock next morning we were awakened by the increased motion and noise of the ship, and went on deck to see the last of Tristan. There was a bright lee to the east of the island, off Sandy Point, and almost the whole Peak stood clear of cloud. Some fresh snow gleamed near the highest summit. Birds flocked around the ship, including

Wandering Albatrosses and Cape Pigeons, neither of which had we seen while ashore on Tristan.

The ship had a brisk motion in the short swell, and breakfast was not a success. Even James, who had remained unperturbed by *Magpie*'s antics, left after the cornflakes stage, murmuring 'Interesting', to return with truly Roman determination a few moments later. After Nightingale and Tristan had vanished into a rain squall at about half-past eight, most people settled down on deck to bask in the occasional gleams of sunshine, and to watch birds. Robert and I held a conference with Otto Mohr, who was worried about the weather.

'If this wind goes round to the north-east, as I think it will,' he said, 'it will be too rough to land you at the usual place. I shall try to put you ashore, with a few stores, at the south end of the island — down here on the chart. You can then walk over the island to the main landing and wait there for a fine spell when we can land your gear.'

We looked at the map, from which the route traced by Otto's finger looked easy to follow.

'The most important thing is to get onto the island,' said Robert, remembering the difficulties of previous visitors. 'Once we are there, we shall manage somehow — even if we have to live in caves and eat Mollies!'

We all agreed with Robert's words. Yet, looking back, I shudder to think what it would have been like had we been forced to struggle over the forested hills of Gough in the weather that followed our landing. For, as we were to find, that map, which made the route look so easy, was very far removed from the truth. . . .

At half-past four on the following morning somebody clattered down an iron ladder into the processing room to announce that Gough was in sight. At that hour all that could be seen was the dark outline of the cliffs against the sky. It was a dull morning, with a cold north-westerly wind and low clouds, and it was not until towards sunrise that colour and detail began to appear in the grey silhouette of the island. The north-east point drew nearer, a group of sea-stacks standing clear, and we were startled by the broken nature of the ground. Valleys and hills appeared, where the charts we had been going by indicated neither, and numerous waterfalls showed clearly, falling from hanging valleys over the high cliffs. As the clouds lifted, the central hills of the island began to appear, and we immediately noticed a high peak standing isolated on the south, and quite separate from Mount Rowett, which, with its three visible summits, lay in the centre of the island. Three valleys opened between the north-east point and the mouth of The Glen on the east side, where the spike of The Fid, a pinnacle itself about three hundred feet high, stood on the very brink of a nine-hundred-foot cliff. All the cliffs along the east coast were higher and steeper than we had expected, yet their green colours showed that vegetation managed to cling even there. As we came in past Penguin Island, a rugged islet about three hundred feet high lying half a mile off the eastern shore, The Glen itself opened ahead of us, and we came to anchor in full view of the Hag's Tooth and the landing-place at seven o'clock. Our fears of the previous day proved groundless, for the sea here, in the lee of the island, was glassy-calm; the surf was hardly visible on the shore, and conditions for landing looked perfect.

Even before we left England we had been fairly certain that the mouth of The Glen would prove the best site for our Base Camp. We knew that its beach was the easiest landing-place on the island and that there was a small patch of sheltered lowland in the valley just above the shore. But more than that, it was the only good landing-place from which it was easy to reach the interior of the island. The route up The Glen had been explored by parties from other expeditions, as well as by sealers, and it was by this route that the Hag's Tooth and Mount Rowett had been climbed. According to the maps The Glen lay near to the centre of the east coast, and this in itself added to its merits since most of the island would be in range of a day's journey. To go elsewhere would have been to gamble, and it would have needed strong reasons to make us land at some other point even had we been able to do so. But the inspection of the east coast through binoculars, as we came past on November 13th, confirmed that The Glen was far and away the best place and the calm sea made decision easy. Otto Mohr supported this decision, saying emphatically, 'The Glen is the best place for you'.

After a hurried breakfast, all of us except Nigel, who stayed to check the stores off the ship, piled into two dinghies and headed for the shore. We came in through the kelp zone slowly, towards the pebbly beach in The Glen mouth, with the red-brown cliffs and the dark piercing tunnel of the Archway Rock clear to see on the left. The beach came very near, and still the impression of calm continued. So much had been said about the difficulties of landing on Gough that it was not until the boats' keels had actually grated on the pebbles and we had jumped ashore that we really grasped the fact that landing on this occasion at least was going to be easy. The sea was so calm that most of the waves lapped the shingle without breaking, and even the biggest waves in the roughest of rough times broke so gently as to be harmless. The stores soon began to flow ashore quickly, the fishermen in little black, thirteen-foot wooden dinghies rowing in swiftly through the kelp. A pile of crates and oil-cans began to build up at the top of the beach, yet the conditions were so good that the dinghies were coming in faster than we on shore could empty them and push them off again.

And then, in the midst of the excitement of landing, and the thankfulness for the good conditions, came disaster. Robert Chambers had taken advantage of a lull in the arrival of dinghies to walk a few yards up the grassy flats behind the beach, and look up The Glen, searching for a possible hut site. Quite suddenly he felt a searing pain in the back, and found himself lying on the ground. He tried to move, but the pain was acute, and he had to call for Van and James, who were nearest, to help him. They carried him to a sheltered spot near a small cave at the top of the beach, and laid him there, hoping that the trouble, whatever it was, would soon subside.

A shore party arrived from the ship, and with their aid the stores were handled more rapidly still. The big flat hut sections were brought ashore laid horizontally across the sterns of the dinghies and gave no trouble. The generator, weighing five hundredweights, came in a dinghy and was rolled easily up the beach. By half-past two in the afternoon, all the off-loading was completed, and the fishermen returned to catch bait in preparation for the next day's work. We unpacked and pitched the three tents in the lee of a cliff above the beach, and opened the crates of essential foods and cooking equipment.

Meanwhile James had examined Robert's back, which was far from showing signs of getting better, and wanted to consult Dr. Fawcett on Tristan about it. He went out to the ship at noon and, after discussion, returned to make some tests for which the doctor had asked. He and I went out to the ship again in the evening and — to my surprise and alarm — heard that Dr. Fawcett was inclined to take a serious view of the injury. Neither a spinal fracture nor a prolapsed ('slipped') intervertebral disc could be ruled out, and with these conditions as possibilities we had to keep Robert still and at rest, with his back as straight as possible. The tents were big enough for this, but did not allow room for somebody to attend to a sick man at all easily, so the cave was selected as the hospital. It was dry, but draughty, and our first task was to block one of the entrances with a wall of crates and kit-bags, and to close the other entrance by laying a hut section against it. It then became much snugger, and with a paraffin heating stove was not uncomfortable for Robert, who himself was now lying on an air bed laid on a bunk board.

Despatches announcing our safe arrival — 'SAFE LANDING COMPLETE STORES GLEN BEACH' — were sent off to John Heaney and to Allan Crawford, and we also sent a message to the *Cape Argus*. They were followed by messages telling of Robert's accident. In the evening we lit a fire on the beach and cooked a supper of fish and crawfish over it, and that night James, Michael, and I found sleeping space in the cave while the others had the tents.

Like Prospero's home, the isle that night was 'full of noises'. Two cow sea-elephants and their calves occupied the grassy flats by the stream, and carried on a conversation of moans and snorts much of the night. The 'night birds', the small, ground-nesting petrels, whistled and cooed in crescendo and Michael tried without success to locate the individual sources of sound. There must, we realised, have been many hundreds of birds contributing to the chorus, and many separate species were involved.

Next day began with low clouds and a threat of rain which soon turned to a steady downpour. A hut site had first to be selected, and we finally settled on a fairly flat patch of grass on the north side of The Glen, about twenty feet above the sea and a good ten feet above the highest visible storm-mark. Before work could be started on stripping off the turf and levelling the ground a young sea-elephant had to be ejected from a wallow situated just where we wanted to put the back door. A sea-elephant is an obstinate beast, and, since nature has provided him with a thick blubbery insulation against the shocks of the outer world, he can absorb a good deal of prodding before deciding that it is better to move somewhere else. This animal took about ten minutes to coax from his oozy bed down the grass slopes into the stream that ran down the middle of The Glen. We left him there, and he soon settled down to sleep again.

The site we had chosen faced south-eastwards, across the grass and docks of The Glen mouth to the Archway Rock and the sea. The Archway Rock has been commented on by many visitors to Gough, and is indeed a striking feature. It is really a low headland, rising about seventy-five feet from the sea, and jutting out to shelter the pebble beach on which we had landed. Through it a cave runs — hence the 'Archway' — and the stream draining The Glen flows, at low tide, through this cave, making it appear that the stream has actually cut it. The level ground extends for some thirty yards on either side of the stream, and then the ground rises at a steep angle (between thirty and forty degrees in many places) to the crests of the ridges which enclose The Glen. The slopes are covered by a vivid green fern, with occasional tree-ferns and scattered island trees, and from these slopes jut outcrops of grey volcanic rock. Many of these outcrops are due to dykes, formed by the intrusion of liquid lava along fissures in the earlier rocks, and the later solidification of this lava to form thin vertical sheets. Such dykes are often made of rock which is more resistant to weathering than the earlier material around it, and, if this is the case, over the years they tend to stand out from the hillsides as walls and pinnacles. The landscape of Gough Island, at least in the lower parts of the different valleys, simply bristles with such dyke outcrops, many of them fantastic in form.

The site in the mouth of The Glen had been occupied by sealers and by diamond prospectors long before, so that it was hardly surprising that in stripping the turf we came upon many relics of earlier occupants. In this way we were reminded of the long and curious history of the land on which we stood, of which some account must now be given. It is a story deserving of a book in itself: a tale of early explorers pushing farther towards what many thought was an abrupt and uninhabitable world's end, and of rugged men enduring danger and hardship amid the stormiest seas on earth.

The story began in the late fifteenth century, when Portuguese mariners searching for a sea route to the Indies pushed farther and farther southwards into the Atlantic. During these voyages many of the South Atlantic islands were discovered. In 1502 Juan de Nova Castello reached St. Helena, and in 1506 the Admiral Tristão da Cunha first sighted the islands which now bear his name. Gough Island must have been discovered soon afterwards, since it appears on maps dated before 1520, and its discoverers named it Gonçalo Alvarez after the captain of Vasco da Gama's flagship on his epic voyage to the East.

Gonçalo Alvarez Island was placed more or less correctly on the early charts, and retained its name and position until the late eighteenth century. The substitution of 'Gough Island' as the name of the same piece of land is an interesting illustration of the errors of eighteenth-century navigation and map-making.

In 1731 Captain Gough, master of the British ship *Richmond*, reported having sighted a new island in the South Atlantic. It was placed, on the first charts on which I have seen it, at 41 degrees south, 2½ degrees west. Now there is no land whatsoever in this position, and had a search been made at once, it would probably have been concluded that 'Gough's Island' had no existence in fact. Gough may have been misled by a strange cloud, or even by an iceberg which had penetrated to an abnormally low latitude. Alternatively, he may have made a serious error in his determination of position, and merely have seen Gonçalo Alvarez Island, which is shown on the charts some four hundred miles to the west of his 'discovery'.

But no such search was made, and it was left to successive map-makers to move the position of Gough Island slowly westwards. In 1792 a map was published to show the voyages of the two British warships *Lion* and *Hindostan*, and on this map Gonçalo Alvarez, shown in its traditional position, is labelled 'doubtful', while 'Gough's Island', now barely fifty miles away, bears the note 'position doubtful'. The next step soon followed. Gonçalo Alvarez disappeared from the maps, and the name of a lesser seaman replaced it.

Some people, writing of the island and aware of this chain of errors, have sought to restore the old name. Such an action was especially attractive to us, as scientists brought up to honour the rule of Priority of Nomenclature. But this might only make confusion worse confounded, and we have compromised by naming the Weather Station and our own base 'Gonçalo Alvarez'. This has proved a relief to some South African tongues, which have been uncertain as to whether 'Gough' should be pronounced as 'Goff', 'Guff', 'Gow', 'Goo', or even 'Guch'. As a final point, may I emphasise that the name 'Diego Alvarez' has never been correctly applied to the island; it is a corruption probably based on a misreading of the label 'I. de Go. Alvarez' which appears on many old maps.

Interest in these remote islands increased rapidly in the eighteenth century with the growth of the sealing industry. Every year some ships sailed from Europe or America in quest of the rich prize of skins which was to be had on the rocky shores of the southern oceans. Little ships, sometimes of less than a hundred tons, pressed forward into the ice. South Georgia, Prince Edward Island, Marion Island, the Crosetts, Kerguelen, Macquarie, Auckland, Campbell, the Falklands, Tristan da Cunha, Gough; all these and many more abounded in seal and were visited many times. Such sealing vessels often called at several islands in succession, leaving shore parties on each, and then returned for their men some months later when they had accumulated a store of skins.

One of the most interesting accounts of such a party is given by Captain Peter Heywood, R.N., who visited Gough Island in H.M.S. *Nereus* on January 8th, 1811. He first called at Tristan, where he found the American ship *Baltic* engaged in landing three men who hoped to settle on that island. The *Baltic* then intended to sail to Gough Island, to pick up a party of seven whom they had left there the year before.

'At day light', wrote Heywood, 'the wind, having hauled to the south, the weather cleared up, and Gough's Island was in sight at about six leagues from us, the base and extreme points of it only to be seen, the higher parts being obscured by clouds. Made sail and approaching observed the rock off the North East point making as is described exactly like a church with a spire. The contour of this whole island is steep, rising up almost perpendicularly from the sea in high cliffs, down the fissures of which fall several beautiful cascades. About eight o'clock observing a hut in a small cove sheltered by some of the high peaked rocks whose base is completely perforated, and supposing it might be the habitation of some of the American seamen whom the master of the *Baltic* had left here last year, I hove to and sent the lieutenant away in the cutter, with orders to land if he should find it safely practicable, to try to get some tidings of them and to offer them any assistance they might need. He landed just to the eastward of the large rock, but finding no person in or near the hut returned about noon, and just at the same time a boat was observed pulling up from the south east part of the island round the Church Rock, which I bore up for and picked up. In it were the people left by the master of the *Baltic*, and not a little overjoyed when I told them that they might expect to see their ship daily to take them off the island. Not that they were in want of food, for they informed me that they caught a great variety of excellent birds up in the hills by lighting a fire there in the night time, at which they flew in such numbers that they knocked them down with sticks. They had also some of the provisions left them when they landed, and they could always catch more fish than they could eat, in a quarter of an hour. But they had not been so successful as they hoped when they first landed . . . for in all this time they had only been able to cure eleven hundred sealskins so that, as they were all on shares, they would scarcely clear as much for their labour as would find them "new gang of rigging", and truly they needed some, for they were all in a most ragged plight, full of grease and filth and clothed chiefly in seal skins.'

Various other sealing vessels and British warships visited the island during the nineteenth century, and the latter made the first running surveys of the coastline. But the next well-documented visit did not take place until 1888, when the *Francis Alleyn* landed a party of sealers under her second mate, George Comer. Comer proved to be something of a naturalist and kept a diary during the year and a half he spent on the island. The diary is terse, and tells us little about the daily life of the party, but it does throw some light on their diet and weather. There are entries describing 'splendid fishing', 'we live on young albatross', 'we now have about 3000 penguin eggs, about 1700 in barrels', 'we have plenty of albatross eggs now', 'found some potatoes growing wild — quite a good size'. These paint a revealing picture of the natural resources of the island which they exploited.

Conditions none the less proved too much for one of these men. In October José Gomez lagged behind when a party was returning home across the mountain from a hut they had built in another part of the coast. His companions exhorted him to follow after them, and then pressed forward. The next morning, when he had not appeared, a search party retraced their steps, to find him frozen and stiff on a ridge crest. They buried him there, and for many years a board inscribed 'José Gomez, perished in the snow' stood over his grave. Nobody now remembers where this was, though John Glass of Tristan, who died only a few years ago, is said to have done so. ''E know the werry spot where he was bury,' said another islander of Glass. 'H'eighteen h'eighty-h'eight or h'eighteen h'eighty-noine. 'E know the werry spot.'

Comer's party, in eighteen months, only killed 311 fur-seal and one sea-elephant. From the commercial point of view their visit showed that Gough was finished. Curiously it was this same visit that showed that from the scientific point of view the possibilities of the island were considerable. For Comer, besides making notes and keeping measurements of albatrosses and their eggs, also collected the first specimens of a peculiar flightless rail, a bird about the size of the European moorhen and very like it in appearance, which was later named *Porphyriornis comeri* after its discoverer.

The visit of a party from the Cape Town vessel *Wild Rose*, who landed and built huts in the mouth of The Glen in 1891–2, confirmed that sealing on Gough was a hopeless occupation. It is not known how many skins they took, but their experiences are summed up in the terse comment, 'the seal had deserted the island'. The men were so delighted to see the ship returning for them after their long and fruitless stay that they fired their huts in a drunken frolic, and had to spend a cold and cheerless last night in the open.

The uninhabited, rocky islands of the Southern Ocean have long been a menace to shipping, and they were a greater one in the days when navigation was unreliable and when ships were at the mercy of the winds and currents. But only one wreck is recorded from Gough, and that took place in 1878 when the *Philena Winslow* of Portland, Maine, with a cargo of 2861 tons of coal, ran ashore some time in December. Her crew were all saved, and were transferred to Tristan by another vessel. However, in the first eighty years of the Settlement on Tristan its inhabitants cared for the survivors of seventeen shipwrecks, on Inaccessible and Tristan itself, and it is more than likely that other wrecks occurred on Gough of which neither record nor men survived.

Scientific expeditions did not begin to visit Gough until the present century. In 1904 the *Scotia,* carrying the Scottish National Antarctic Expedition, landed a party for a few hours after considerable difficulties. In 1922 the *Quest* brought the members of Sir Ernest Shackleton's last Antarctic Expedition, and, after another difficult landing in heavy surf, a party explored The Glen and made the first recorded ascent of the Hag's Tooth and Mount Rowett. This latter mountain was named by them after the patron of their expedition, and they determined its height as 2915 ft. They believed it to be the summit of the island, and until our visit nobody had produced any evidence which conflicted with this view. Later, in 1927 the Royal research ship *William Scoresby* paid a brief visit, and in 1934 a Norwegian party arrived in the *Thorshavn.* All these parties collected scientific specimens, and provided valuable information about the rocks, plants, and animals of the island. We knew, as a result of their work, that there were many kinds of plant which were confined to Gough Island, and that two species of bird also occurred nowhere else in the world. One of these is the landrail first reported by Comer; the other is a small bunting. But the chief value of these collections was to show that the island was a fruitful subject for further work, and it was this knowledge which allowed our own Expedition to be planned.

Only two other visits to Gough demand mention in these pages. In 1919 the whaler *Woodville* landed a party of diamond prospectors, led by F. X. Ziegler and J. G. Fenton of Cape Town. With them came two Tristan Islanders, Jim Hagan and Willie Swain, and a number of Coloured and Native workmen from the Cape. A most unexpected member of such a group was a young South African boy, aged thirteen, named Roderick Garden. He explained to us, when we met him in Cape Town, that his father believed in bringing children up to be tough, and that the trip to Gough followed earlier visits to South Georgia. While on the island he kept a brief diary, which records some appalling weather and a succession of mutinies among workmen living under poor conditions. No diamonds appeared; no geologist of today would expect them to; and a disillusioned group whose numbers had been reduced by one fatal illness had to wait three months longer than they had intended before the *Woodville* returned for them.

In 1938 a very different kind of party arrived on The Glen beach. Although Gough Island had been regarded as a British possession 'ever since Captain Gough discovered it', no formal annexation had been made. In 1938 the British Government realised that Captain Gough's 'discovery' hardly gave grounds for claiming anything, and that immediate action was necessary if the island was to be retained. So the warship H.M.S. *Milford* was despatched to raise the flag and read the necessary declaration. This task was accomplished despite the loss of a boat in the surf, and the bedraggled party, which included Allan Crawford, then swam out through the waves and returned to the ship.

It was the prospectors' activities which were so evident to us as we worked on the foundations of our own hut. The whole area around the site was cut about with old diggings, subsequently adopted by sea-elephants as commodious wallows. Two upstanding masses of stone, covered by tussock grass, proved to be the gable ends of a hut built by the Tristan Islanders. A layer of corrugated iron lay above timbers which probably came from the prospectors' wooden hut, while a patch of charred wood might date from the period of the *Wild Rose* whose party is known to have destroyed its huts by fire.

On the beach below the hut there still lay the rusted remains of a winch, left by the prospectors, and in a corner we unearthed seven pickaxe heads and a shovel. One of the axe heads was fitted to our spare shaft and brought into use. During the first day the site was levelled, and two floor sections were laid. Meanwhile James and Philip had unpacked the Army '62' set lent us by Pye's, and, using a long wire stretched right across The Glen as an aerial, they managed to contact Tristan, direct, that evening, so that James could discuss Robert's health with the doctor.

Cooking for the first day was done in a shallow cave at the north end of the beach, which remained dry except when a gust of wind blew straight in from the sea. It was here that the Negro and Coloured workmen of the 1919 party had lived, and the rusted nails still protruding from the walls indicated where they had attached the sail used as the cover of their 'tent'. We lit a bright driftwood fire that evening, and sat around it, drying out clothes and getting warm again after the day's soaking. Suddenly the peace of the evening was shattered. A bird flew in fast from the sea, hit the cliff above with a thud, and fell to the ground near the fire. Another followed, and another, and soon the air seemed full of birds wheeling round and falling to the ground in a dazed state. These were the 'night birds', petrels and shearwaters which nest underground in burrows dug in the hillsides. They are nocturnal in habit, and the change-over during incubation, the feeding of the young, and the flight of the young to the sea all take place at night. A bright light distracts them, especially when the moon and stars are hidden by cloud, and it was by lighting a fire that the sealers in Heywood's account had caught 'birds of good flavour'. We now had a demonstration of the same process, and a dozen or two birds could have been caught had we so wished. Those we picked up proved to be Broad-billed Prions and Soft-plumaged Petrels, and it was the calls of these two species that made up the bulk of the nocturnal chorus.

Next day James was more worried over Robert's condition, which showed no signs of improvement. The low, dark cave was a bad place for a sick man, and his illness lent added urgency to our work on the hut. All the floor was in place and levelled up by nightfall. This was the critical part of the job, for, if the floor was uneven, the wall sections would not fit together properly and roofing would be even more difficult. While working, we watched *Tristania*'s dinghies fishing offshore in bright, sunny weather. On the 16th we started putting up the walls of the hut, beginning at 6 A.M. Robert was more cheerful, but a rising temperature and pulse suggested to James and to the doctor on Tristan that pneumonia might be developing: this is a real risk when a man has to lie still, especially in a damp place. Penicillin kept the danger at bay, but the sooner we could get a proper roof up the better.

The hut wall sections went into place quickly, though it was necessary to brace and guy them in the strong, gusty wind that blew down The Glen. By nightfall all the walls were up, the roof was on the living-room and the kitchen, and the living-room windows were glazed. After nightfall we worked on, by the light of photoflood bulbs, only to be subjected to a tremendous bombardment by the 'night birds'. There must have been up to a thousand of these in sight at a time, the white bodies flashing overhead and wheeling around looking as snowflakes do in the glare of a street lamp. In the end, after several people had been hit, and after the windows had narrowly escaped destruction, a bird crashed into the lights, ending the day's work.

There was a bustle going on over our affairs in other places as well as Gough Island at this time. Dr. Fawcett and Pat Forsyth Thompson were far from happy about Robert's remaining on Gough with an injury as yet imperfectly diagnosed but probably serious. Cables had passed between them, on Tristan, and the Colonial Office and John Heaney in England, and arrangements were being made to divert a ship that was due to pass close by, and take Robert from the island to Cape Town for examination and treatment. As few merchant ships carry anyone who would be competent or willing to look after a suspected spinal injury, James might have to accompany Robert. Such a loss of two men would of course have been a serious check to the Expedition, especially as there was no prospect of either of them returning until about the end of January when *Tristania* and *Frances Repetto* normally came out on a second trip. Matters came to a head next day, just after we had finished putting the roof on the hut and were sitting on it spreading out and tacking down the water-proofing felt.

From the hut roof we had a good view out beyond the Archway Rock, over the sea and the Glen Anchorage. Into this view came *Tristania,* and even as she slowed to come to anchor she blew a succession of blasts on her siren. Short, long, short; pause, long. 'R. T.'. James hurried down to the temporary radio shack, built out of crates and roofed with a tarpaulin, and tuned up the '62' set. He heard Otto's voice.

'It is our third engineer. He has shut his hand in a bulkhead door and has smashed a finger badly. I think it will have to come off but I have decided I must go back to Tristan so that the doctor can see it. So I thought about your man, and that I should take him as well, you see.'

For myself, I can only say that these words gave me a tremendous feeling of relief. A small island like Gough is not a good place for a sick man, and, even setting aside the danger to Robert, caring for him was bound to take time which should have been spent on the work the Expedition had come to do. Bitterly though Robert regretted leaving, sorry though we should be to see him go, there was really no other sensible course to take. If his injury, in the better conditions of Tristan Hospital, should mend quickly, it would be far easier for him to return from there than from Cape Town, while if it was decided that he should still go to Cape Town, it would be easier to get him on board a ship at Tristan than at Gough. So, after a hurried handing-over of business, and a briefing on survey procedure, Robert was strapped onto a stretcher and ferried out to *Tristania.* Otto was in such a hurry to be away (for every hour meant loss of fishing time) that his anchor was up and he was heading at full speed for the open sea before the dinghy bearing John Lavarello and myself had returned to the beach. James accompanied Robert to Tristan, to care for him on the voyage, and he found the scene as they took Robert ashore very moving. Almost all the island was watching: the men on the beach, or in the boats, and the women sitting on the cliffs above. Many women had to hide their emotion behind ample handkerchiefs, and a gloom hung over all. For the second time the Expedition had lost its leader through illness, and I took over with feelings akin to those of the next little Nigger Boy.

CHAPTER SIX

Beyond the Skyline

BY the end of the first week after our landing the Base Camp was nearing completion. Van's weather instruments had been erected on some level ground near the stream, and Philip had installed the main radio equipment in time to send our first bulletin to Cape Town exactly a week after our arrival on Gough. John and Arthur had built a small hut for their own use, and soon afterwards we erected a flagstaff and hoisted the Union Jack over Gough Island for the second time in history.

The wild life of the island was all around us during these early days. The sea-elephants deserted the beach soon after our arrival, but fur-seals occasionally hauled out on the bigger boulders farther to the northward and their short, sharp bark echoed along the coast. The island rail — 'island cock' as John and Arthur called it — could be heard 'chack-chack'-ing metallically from the undergrowth across the stream. Occasionally one of these little black birds, with their startlingly red combs, was glimpsed feeding in the open, or scuttling from one patch of cover to the next. A rookery of penguins lay only a hundred yards up the valley, and their raucous shouting resounded down The Glen. Parties going up, full fed, from the sea, and others hopping down, hungry after a spell at the nest, passed one another and bobbed down past our crates to plunge into the sea at the landing-place. They treated us and our stores with a mingling of suspicion and curiosity. A party would hop up their well-worn path and suddenly become aware of the obstacles piled on it. Then would come apparent panic, and they would hustle back to the sea, yellow tassels flapping wildly. But the 'drive' to return to the nest drew them back, and they would hop cautiously round the obstacles and accelerate as the road opened clear before them again on the other side. Then there were albatrosses usually in sight overhead; Mollies, Peeoos, and Wanderers, or Gonies in island and sailor's language. The skuas, or sea-hens, of The Glen were common too, and one pair which had a nest near the hut dived fiercely at intruders. The skuas are the chief predators among the island birds, preying on 'night birds', but not averse to sickly penguin, and snapping up penguin chicks and eggs whenever they got the chance. The other predatory bird was less common and only seen on the sea. This was the Giant Petrel, a big bird coloured a uniform dark brown and with a powerful beak built up of several distinct horny plates. It is not a pleasant bird in appearance or habits, and its musty smell has gained it the name of 'Stinker'. Finally, most obvious and perhaps most interesting of all the island birds was the little Gough Island Bunting, which hopped all round us as we worked, and fed among the dead seaweed piled up on the beach. Previous visitors had noticed two well-marked plumage types in this bird, and had wondered whether these represented one or two species, and the problem was clear to us too as we watched them. For some were a uniform green in colour, with dark patches on the throat, while others were a light, speckled brown.

And, if the wild birds were what impressed us most, there were enough interesting plants on the doorstep to keep Nigel happy. Two species peculiar to the island grew on the level flats in The Glen mouth — one a wild celery (*Apium goughense*), and the other somewhat like a groundsel (*Cotula goughensis*). The vegetation of the lower slopes proved to differ from that of similar hillsides on Tristan, the chief plant being a bright green-coloured fern (*Histiopteris incisa*) which, while it grows on Tristan, does not attain dominance in the same way as it does on Gough.

Looking up The Glen, from the hut, we could see where the valley split into two, one branch passing on either side of the densely forested base of the Hag's Tooth. Above the forest the grass sloped up to the bottom of the Tooth, which rose in a sheer tower of bare grey rock for five hundred feet, culminating in a jagged crest. Seen below cloud, or with mist hanging in curtains and streamers around its sides, the Tooth loomed up like some great fortress of an ancient legend. Behind it, higher but less sheer, was the long ridge of Mount Rowett, horizontal scars of basalt outcropping across its face. But beyond this ridge we could see nothing from The Glen, and although Nigel and I walked up the slopes to the south on the 21st, it was not until Wednesday, November 23rd, ten days after our landing, that we really set out on a whole day of exploration.

The party consisted of Nigel, Michael, John, Arthur, and myself. For the first half-mile we ascended beside the main stream, since this proved the easiest route through the dense forest and broken terrain of the valley floor. We zigzagged from bank to bank, now hopping from boulder to boulder across the rapid stream, now traversing along the bank above some dark, deep pool, now scrambling up through the bushes that grew thickly beside a waterfall. On either hand the sides of The Glen mounted to the sky-line; steep slopes clad in ferns and trees, with dykes outcropping in bold walls and pinnacles, and with deep ravines and green, mossy slides each with its tributary stream. Then after about half an hour we came to what we somewhat unimaginatively termed 'Watersmeet'. The stream divided, the right-hand branch flowing through a narrow gorge and the left-hand coming down from a more open valley. John and Arthur explored up the valley to the left, following the stream, while the rest of us continued along the crest of the ridge between the two branches of the valley. We soon became involved in forest and fern every bit as thick as that above Sandy Point on Tristan, and broken much more by little cliffs and hollows. It was slow going, made slower by the deep peaty litter of the soil and by the bird burrows with which it was honeycombed. As we walked across the more open clearings there was usually a burst of muttering and grumbling from below our feet;

doubtless pungent bird comment from those whose nesting tunnels we had disturbed.

After about an hour's scrambling through the forest we found ourselves emerging among a maze of rock pinnacles on the crest of the ridge below the Hag's Tooth. We contoured round them, passing above one and round the base of another into a ravine, crossing it, and traversing below another craggy mass to emerge with a view across open grass slopes towards the Hag's Tooth and Mount Rowett. We crossed towards the Tooth, and as we finally came out upon the open ground found John and Arthur waiting for us. Together we walked round below the Tooth, and found out for the first time how slippery such slopes could be. The soil at this level is a shallow peat, and, where it lies at a steep angle, it is very liable to come away when any weight is put upon it, leaving a muddy scar on the hillside and the passer-by prostrate on the ground. From behind the Tooth we walked up a long, grassy ridge towards Mount Rowett, and it was from here that we got our first view beyond the confines of The Glen. And, when we had at last scrambled to the top of the north peak of Mount Rowett, about a third of the island was in sight. To the east we looked back down The Glen, with the Hag's Tooth close at hand below us, the big, smooth slabs of its west face looking easy to climb, since they lay back at a low angle. To the north, again below us, there lay a broad boggy plateau, its surface covered by yellow-green and red *Sphagnum* mosses, and dotted by pools. Several valleys cut back into the eastern margin of the plateau, and the ridges between them, which had clearly been derived by the erosion of a formerly more extensive plateau, were narrow and craggy. A second Hag's Tooth rose in the head of one of these valleys. Then, in the centre of the island, and due north from us, there rose a peak which was clearly higher than the point on which we stood, and looked higher than the top of Mount Rowett behind us. This was the first intimation we had that Mount Rowett was not in fact the summit of the island. Now this peak that lay to the north might be the 'High Peak' which had been shown on earlier charts, but, if that was the case, what was the other peak that could be seen farther north still and almost equalling it in height? One thing was quite obvious; the earlier charts of the island on which we had based our plans back in England were hopelessly inaccurate. Then, turning to the west, there was more of the plateau: another broad boggy hollow lying enclosed within the semicircle formed by the four peaks of Mount Rowett itself.

After a brief halt for lunch we continued southwards along the ridge of Mount Rowett, to its highest point. Then another view opened, to the south point of the island, which was just visible as a rocky reef ringed by surf. The land above it was densely forested — the 'easy slopes, well wooded', described on an earlier chart. But between us and them lay another broad, boggy depression, and on its farther side rose the high peak which we had seen on our arrival, which stood at the head of a valley running down to open at the sea close to the Archway Rock.

The plateau land around Mount Rowett (and the map at the end of the book will make the topography clear) was dotted with white specks. Michael brought his telescope to bear, though even without it he was sure what these specks were. They were young Wandering Albatross, now nearly ready to leave the nest for the sea.

Gough Island is now practically the only breeding-ground of the Tristan sub-species of the Wandering Albatross, whose full scientific name is *Diomedea exulans dabbenena.* This bird is slightly smaller than the other sub-species which is abundant on South Georgia and the Falklands, but it still has a wing-span of over ten feet and is among the largest of all birds that fly. The nests, like all albatross nests, are hillocks of earth about nine inches to a foot high, and they are nearly all built on the open hillsides and high plateaux of the island. For albatrosses, despite their mastery of the air, find it difficult to launch themselves from the ground, and for this reason nest in places fairly exposed to the strong prevailing westerly winds.

We descended into the broad valley south of Mount Rowett, where there were several adult albatrosses as well as the young. Later we named this valley Gonydale, from the albatross whose Tristan and sailor's name is 'Gony'. The name refers to the 'stupid' habit of the bird in allowing itself to be approached and making little effort to escape, and the word derives from the same root as 'goon' applied to similarly silly human characters. The albatrosses in Gonydale did not belie their names. The chicks as we approached turned to face us, clicking their bills and shuffling on their big flat feet. In November these chicks were about eight months old, for the eggs are laid in January and hatch in March into little white balls of down, which take nearly the whole of the rest of the year to grow to full size. In November most of the down had been shed, revealing the dark sea-going plumage underneath, and some of the chicks were to be seen beating their wings against the fresh breeze. A few adults still remained by their young, their brilliant white plumage in marked contrast, and we took this opportunity to secure one specimen of an adult and one of a chick. The Wandering Albatross has suffered from being extremely good to eat, but we, while confirming this fact, only took five birds during the whole of our stay on Gough, and two of these provided good skins for the British Museum.

We set off for home along a high ridge which separated The Glen from its neighbour next to the south. This gave good walking, except that the steep, slippery peat proved a trial to Arthur and John who were wearing island moccasins. After about half an hour of rapid progress, however, the ridge became more broken and craggy, and while it looked as if there was a way among the pinnacles ahead, it might have been difficult to find, and did not commend itself in the late afternoon. So we plunged down the side of The Glen, through more forest, and back at last to the stream and the hut.

It was as well that we made this journey when we did, for in the forty-eight hours that followed we had five inches of rain, falling in a steady downpour. Frustrating as this was, it did enable us to put finishing touches to Base Camp, and to settle into a domestic routine.

The hut was, as has been made clear already, a sectional wooden affair, thirty-six feet long and twelve wide, and divided into four rooms. At the eastern, seaward end was the living-room, twelve feet by eighteen. Three windows along its southern wall gave a view over The Glen mouth to the Archway, and lit a long table set against the wall. Here there was normally a litter of plants pressed and unpressed, of bottled insects, of rocks, of microscopes, and of papers — especially papers. On a wet day two or three scientists were usually to be seen sitting there examining specimens and writing up notes. The other three walls of the living-room were hidden to a varying extent behind the bunks, which were in two tiers, giving accommodation for eight. After Robert's departure one of those bunks was empty, and used as a dump for files and books, for we had a considerable library of books and magazines, many of them presented most generously by the Victoria League in South Africa. Other aids to leisure occupied two corners of the room : a Deccalion record player in the south-east, and a case of assorted bottles in the south-west. Access to the bottles, however, was restricted to the half-hour or so before supper, and to times when we entertained visitors from one or other of the fishing ships.

The living-room was not painted, except for patches and letters on the inner faces of the wall sections and the bunks, many of which read 'G.I.S.S. — CAPE TOWN'. It had no decorations either, because the bunks, and the odd tea-chests propped up as lockers for clothes, took up so much room that there was hardly any wall space left for pictures. In the kitchen, which lay in the middle of the hut, there were some photographs of the island, and an Admiralty Chart pinned on the wall. The kitchen was twelve feet square, with a window front and back, and the front door opened in its south-west corner. There was a table in the centre, and old packing-cases along the north wall served as cupboards to accommodate tins and packets of food, and utensils. The 'kitchen range' was a Valor paraffin stove with twin burners, and supplementary heating was provided by three pressure stoves. A good, large oven was perched on the main Valor stove, and this would accommodate four fair-sized loaves at one baking. Then, at the western end of the kitchen, a narrow door opened into the radio room, which was usually a network of wires and 'cat's cradles' with Philip entwined somewhere in their midst fiddling with odd pieces of equipment. In one corner of the radio room Van set up a cupboard made from crates, and his barometers hung close by. From the radio room another door opened into the dark room, six feet square, also used as the medical storeroom.

While we had been on Tristan we had carried out domestic duties more or less as individual conscience dictated and work allowed, but on Gough we took it in turns to cook for a whole day at a time. The Tristan Islanders, who were not used to our types of food, washed up instead. The day began earliest for Van, who got up to read his instruments at about a quarter to six, and then prepared the morning bulletin. Philip kept a 'sked' with Cape Town (our commercial call sign, incidentally, was ZOE 22) at 6.30, and by this time the cook, whoever he might be, would have breakfast well on the way. Breakfast was usually ready at about seven o'clock, and consisted of porridge followed by something cooked. Our supplies of foodstuffs which the company were prepared to face at breakfast-time were limited, and many people jibbed at scrambled dried egg or a cheese-egg-milk production which seemed to be a Mullock family secret.

Over the breakfast table the question of the day's activities would be raised.

'What's the weather going to do today?' would always be the first question to be asked. Philip usually took the shipping forecasts and from the 'synopsis' for the South Atlantic we could work out the general pattern of 'highs' and 'lows' in the neighbourhood. The barograph's thin ink-line was always followed with interest. The wind, the clouds, and the sea would be studied.

'I think it'll be forggy on the mount'n today,' an islander might say, 'but if the wind haul out to the west'ard it may come fine.'

If it was a glorious mountain day the subject usually settled itself, for we got few enough of these. Or a calm day at sea might send Michael round the beaches. Sometimes too many people wanted to go by sea, or sometimes one person wanted to go up the mountain, but nobody else wished to accompany him. It was problems like these that needed discussion over breakfast. Normally we did not approve of people going up the mountain alone, though most of us did it from time to time, and one standing rule was that people going out left their 'intentions' written up on a sheet of paper pinned by the door. On a place like Gough there was a great deal of potentially dangerous terrain, and this sort of precaution was very necessary. Take a typical sample of such a list:

'December 22' (a very fine day)—

'Martin — to Mount Rowett to build cairns, then onto the-peak-at-the-head-of-the-little-glen. Back for supper.

Nigel, Roger, Arthur — by boat southwards to prospect camp site. Back by dark. N. may stay but if so will remain at camp and not attempt to return overland. Ample food, torch, whistle.

John, Michael — Mountain, gony ringing. Back by dark.

James — Watersmeet, filming.'

On that day only Van and Philip were left at Base. Nigel's reference to 'torch' and 'whistle' indicated that he had both of these and so could signal visually and by sound. We all had sufficient Morse to manage slow conversations in an emergency, and this is an essential for expedition safety. It was normal to carry both torches and whistles, and dinghy parties usually took the '62' set as well, in the stern, so that they could carry out regular 'skeds' with Base, informing them of their progress and weather.

The 'intention sheet' at least meant that if anybody failed to return we could go and look for them in the right general direction. We never did have to send out search parties, in fact, though people got slightly and temporarily lost in mist on one or two occasions.

Breakfast over, people scattered to their various jobs out of doors, often taking a lunch of oatmeal biscuits and chocolate with them. The cook probably did a bake in the morning, and here may I say that we rarely had any difficulty in producing palatable bread, and that our dried yeast never gave any trouble whatsoever. Only once or twice did somebody heat the yeast too much during the early stages, so that his final unleavened loaf would have passed as a geological specimen. 'Amygdaloidal poggolith' was Roger's term for such productions (from pog — a formidable meal (climber's slang), and Gk. *lithos* — stone). Lunch was light, but supper was the main meal of the day and called for all the cook's powers of imagination. Everybody had their own ideas on what they would like, and what the others ought to like, and by cooking in turns we did at least ensure that our favourite dishes turned up regularly. Gough Island soups soon became a speciality, when it was discovered that almost anything can go into the soup-pot. The final flavouring was often the result of judicious blending of Oxo, Marmite, or Bovril. The meat dishes were more of a problem, but the stock of tinned foods was augmented by fish, crawfish, and occasional birds and seals. People's culinary ambitions were reflected by the puddings they produced, these varying from vast steamed concoctions through pastries to hastily-turned-out tins of fruit.

One of the effects of fresh air and exercise is sound sleep, and it was rare to find anybody up after ten o'clock unless there was some very urgent writing to be done. The situation of the hut, on a triangle of land between the sea and the stream, meant that the nights were never silent. Even if the birds and beasts were hushed, the murmur of breaking or running water was always in our ears, and, on a stormy night, I (having the bunk at the seaward end) would sometimes lie half-awake expecting the roar of each breaker to be followed by an ominous pounding of water against the boards a foot from my head. By daylight it was obvious that a gale strong enough to raise seas capable of reaching the hut would also blow the hut up The Glen, but one does not calculate such things with logic when awakened by storms at midnight!

During the heavy rains we were amused to watch the behaviour of parties of penguins coming in from the sea and trying to go up The Glen to the rookery. The stream was in full flood, deep, rapid, and muddy brown in colour, and filling the whole of its twenty-foot-wide channel. The groups of rockhoppers bobbed up from the sea along their path through the dock leaves, and only when they reached the bank of the stream did they notice that things were not quite normal. They halted abruptly, and the worried little gentlemen in evening dress held a discussion seeming every bit as serious as a Cabinet meeting. Eventually one of the bolder spirits took the lead, plunged into the torrent, and struck out for the farther shore. The flippers beat at a frantic pace, and every now and then a black and white body leapt from the surface and tried to gain a few feet through the air. But in vain, and each in turn gave up and was carried away down the stream and back to the sea. They then hopped out onto the beach, and, after a rest and further discussion, returned to have another try. Fortunately, like most mountain streams, this one rose and fell rapidly, and rarely remained at flood-level for more than a few hours. While it was at its highest it was obvious that we, never mind the penguins, would find it difficult to cross and make our way up The Glen.

Exactly a fortnight after landing we heard from Tristan that Robert was, after all, to leave for Cape Town for specialist diagnosis and treatment. His chances of returning to Gough seemed to be diminishing, but it would still be possible for him to come back from South Africa with one of the fishing ships early in the new year.

When the weather relented after the two days' downpour the Expedition really began steady scientific work, and, on December 1st, we made another journey to the high ground. This had two main objects: first to explore towards the northern end of the island, where the terrain quite obviously differed completely from its representation on the maps, and secondly to pick a site for a camp which we intended to establish up there to serve as a base for the mapping and collecting work on the mountains. Roger, Nigel, Arthur, and myself therefore set out from the hut at a quarter to eight, and after more battling through even worse forest than we had encountered before, reached the plateau edge to the north of The Glen at half-past eleven. We then walked along the eastern margin of the central plateau, looking down the series of valleys which ran, parallel to our own, towards the east coast. They proved to be deep, densely wooded troughs, with outcropping dykes standing out as walls. For the first time Roger noticed how the dykes seemed to be running in towards the centre of the island, suggesting that there in the centre was the focal point from which the fissures had radiated. The views down the two glens we passed were very fine; the upper slopes were a tawny brown with basalt crags as dark grey scars; the forest and fern were a vivid green, and the sea beyond a blue so deep that any artist painting it would have been accused of falsifying nature.

From the northern margin of the plateau we turned to our left to climb the high central peak we had seen from Mount Rowett. Its slopes were gentle, and covered by a dry turf pleasant to walk upon after the soggy mosses of the plateau. From the distance this peak had had a suspicious crater-like appearance, and when we gained its top the impression was strengthened. For the summit of this hill is a ring of high ground enclosing a central hollow which is drained only through a narrow gorge that has cut through the wall on the north-east side.

We reached the summit of this peak, and the summit of Gough Island as it later proved, at midday, and the height according to an aneroid altimeter was 2920 ft. To our north, however, there rose another peak of about equal height, and we were not able to decide which was really the higher. (The difference in fact is only five feet.) Cloud began to form and envelop us as we sat there munching our biscuits. Suddenly, as I sat looking at the cindery lava block which is the top of Gough, I noticed a strange insect crawling over it, and let out a yelp of delight. It was, clearly, a small, black Tipulid fly (crane-fly), but it was, and that was what made it interesting, wingless. The wings were completely lacking; there were not even small stumps. Now winglessness among insects on remote oceanic islands is no new thing; but it was one of the features I had expected to find among the Gough fauna, and everybody likes to have their prophecies confirmed.

Why, you may ask, did I expect to find wingless insects on the island? The theory at present most generally held is due to Darwin, and resulted from a study of the beetles of Madeira. It points out that flight is a dangerous thing for an insect living on a small island in mid-ocean, especially if that island is swept by strong winds. For insects that fly stand a strong chance of being carried out to sea, while those that do not are more likely to stay behind and perpetuate their kind. Natural selection therefore favours the development of flightlessness among these insects.

From the top of our peak — Middle Peak as we called it at this time — we looked across a high valley to the other big hill, to which we gave the temporary name of High Peak. These field names, I should explain, were given on the spot, simply because the peaks had to be called something. Middle Peak has now been named Edinburgh Peak, as an acknowledgement of the great encouragement which we received from H.R.H. The Duke of Edinburgh. This name is rendered especially fitting by Prince Philip's visit to the island in January 1957. High Peak has also been re-named and is now Expedition Peak.

The valley below us was flanked by a low, rounded hill which appeared to be completely bare of vegetation. We descended towards it, for the sight of a large area of rock free from the usual blanket of plants had excited Roger's curiosity. The Barren Dome, as this hill came to be named, is indeed a remarkable feature. It is made of trachyte rock, and the surface has weathered into big rough slabs with hardly a plant anywhere save for a few stunted grasses and crowberry in the crevices. Along its northern side the Dome ends in a sheer cliff, dropping into the head of a pair of valleys running down into Lot's Wife Cove. Above this cliff, girdling the dome, is a strange feature which we later called the Scenic Highway. For there are two belts of smooth slabs, bordered and separated by upstanding walls of rock two or three feet high, running around the side of the Dome for all the world like a dual-carriageway road. The scenery amid this waste of rock, with its broken slabs and fringing cliffs, contrasted strangely with the forested depths of the glens and the smooth grass and bog-land of the hilltops.

Beyond the Dome, at the head of the high valley, a grassy col showed invitingly. Surely that must command a view of the extreme end of the island? Nigel and I carried on along the valley, and soon reached it. But only another valley opened before us, with a flat-topped peak on the far side, and another craggy mass higher and steeper than the Barren Dome but otherwise resembling it on our left. We turned aside and walked up a long grassy ridge to the top of a hill by the col. This gave a better view of the valley and the peaks beyond, and, down in the mouth of the valley, a high sea-stack of the Lot's Wife group rose from the surf off the island's north coast. Nigel took photographs, and then we turned to descend, for the afternoon was wearing on. Only when we were well on the way for home did Nigel miss a cap and a photographic exposure meter. From that time on the hill was known as 'Peak-where-Nigel-lost-his-cap', or, by contraction, 'Nigel's Cap'.

On our way home we proved two things. First, that a short-cut is not a short-cut if it leads across a bog, and, second, that the best way up from The Glen to the high ground was the route that John and Arthur had found when we first went up Mount Rowett. Before we could bring up a camp to a site in or near the high valley on the edge of the Barren Dome, something had to be done to render the forest more penetrable, and John, Arthur, and Roger, armed with billhooks and an axe, cleared a path through from the stream to the open ground below the Hag's Tooth. So it was that early in December the whole Expedition, apart from Van and James, who stayed to keep the Weather Station running, set out to carry tent, food, fuel, and equipment up to the edge of the Barren Dome and established there High Camp.

CHAPTER SEVEN

The Daily Round

It is a popular complaint that books about expeditions leave unanswered many of the most important questions: 'How on earth did you manage to avoid flying at one another's throats?' 'Surely you got very fed-up with one another after six months.' 'Didn't you feel dreadfully out of touch with reality?' Even if such questions are answered honestly, the questioner often shrugs his shoulders and suspects that the truth is being concealed in order to maintain an outward appearance of harmony. A Spanish gentleman who was a fellow passenger of ours on our homeward voyage was equally incredulous at our ability to exist for six months on a remote island with NO WOMEN! So, in this chapter, I will attempt to answer these questions and explain what life in the isolation of a 'desert island' was really like.

It would be hard to find a more isolated island than Gough, and it is, I think, impossible to find one that is as remote and yet reasonably habitable. Yet the truth is that we were not out of touch at all. Wireless, of course, was the chief link with that 'outside world' which forms the other half of an islander's universe. In Philip Mullock we had an excellent radio operator and mechanic who had selected first-class equipment and maintained regular communications with Cape Town, Tristan, and with the fishing ships. This communication was only occasionally interrupted by natural hazards. Once a Peeoo wrapped itself up in the aerials, and sea-elephants sometimes threatened to bring the feeder down by lying against a supporting mast.

The radio provided us with news and entertainment from the BBC and other sources. We often breakfasted against a background of the commercial programme from Lourenço

Marques, which was about as much as we could stand early in the morning. It was on such an occasion that the diversity of musical tastes in the party became apparent. For when some (in my judgement) revolting female caterwauling burst from the receiver, one of our island friends commented, 'Ah, now I know you *has* got some good records in the h'outside world.'

Many of the Expedition also turned out to be radio amateurs. This probably served to maintain peace in the party, for when anybody felt that he could not bear to exchange another word with the others — when one of my 'funny' stories was about to be told for the fifth time, for example — he would disappear into the 'shack'. Headphones safely cut out Expedition chatter, and he would soon be deep in conversation with, say, Herbert or Tom in Cape Town, or what Philip described as a 'Grass Skirt' in Hawaii. Or perhaps deep is not the word to use of such conversations, for they seemed chiefly to consist of this sort of thing:

'Hello G3XYZ, hello G3XYZ, this is ZD9AD returning. Roger Wilbur. Some QS Baker, some QS Baker and a lot of QR Murder from South Americans. My antenna is an unterminated rhombic beamed on Cape Town, my transmitter is a Panda, a Panda, one hundred and twenty watts. Did you receive all that? Over.'

And so it would go on. Of course it is not the operator's fault that the conversations are restricted, for there is an embargo on the passing of useful information lest it should compete with authorised commercial channels. But a lot of people seemed to spend their time collecting 'contacts', as I would collect beetles.

Our local radio conversations were much more amusing, for, on isolated islands, as in the Australian outback, everybody chats to everybody over the air, and nearly everybody listens-in to them doing so. We spoke to Tristan nearly every evening, and sometimes Pat or one of the others on the Station would be with Nick Meyer and pass some piece of news or ask some question. Sometimes they would just be interested to hear how we were getting on and what the island was like. At Christmas-time we fixed a special 'sked' so that John and Arthur could speak to their wives Maria and Martha, both of whom took to broadcasting quite naturally. Later, when Harold Green and Ernest Repetto had come down to replace John and Arthur, they too spoke to their families. Harold and Amy (and lest Harold might 'clobber me h'obber the head', I won't say more about her) held one delightful dialogue.

HAROLD (loudly): 'Hallo, hallo.'

VOICE from the other end (very shy): 'Hello, Harold. How you is?'

HAROLD (not recognising voice): 'Hello, WHO, you is?'

On many evenings we spoke to the ships as well, and heard news of their fishing success, weather, and intended future activities. We knew that most of what we said over the air might be heard by others than those for whom it was intended, but it was easy to maintain secrecy where this was needed by passing the information in Morse, and all commercial traffic such as telegrams normally went in Morse. Nobody, in a place like Tristan, would wish to prevent this listening to conversations which are of general interest and do much to widen the horizons of life.

The fishing ships were with us for months at a time; if not in sight, then just round the corner of the island. In fact during the six months that we were on Gough, we were without a ship for only thirty-one days. First the *Tristania*, which had brought us down, stayed around the island until mid-January. She had very bad weather, and on many days could not fish at all. On non-fishing days we sometimes had visitors, and when the *Frances Repetto* came down to Gough early in the new year these visits became more frequent.

I have only described the *Frances Repetto* once, in somewhat insulting terms, but the time has now come to say something more about her and her crew. She is a converted wooden motor mine-sweeper, Canadian built, of some 300 tons. She is commanded by her chief officer, Mr. M. T. Scott, known throughout the islands as 'Scottie'. Born in North Wales, and very much a self-made man, Scottie is short, dark, and powerfully built, and he hides depths of personality and ability beneath a rugged exterior. He is a very competent seaman, knowing the ins and outs of the islands: their currents and weather, and the habits of the 'fish' and of the islanders. One could say of him as was said of Pat Forsyth Thompson that 'he know the h'islanders h'outside h'in'. Yet he is also a good photographer, and has filled albums with views of Gough and Tristan, and he has also amended the map of Gough, adding soundings and naming many prominent coastal features which had escaped the notice of the earlier cartographers. And there I will leave Scottie, whom I can imagine looking at me at this moment with mingled amusement at the trouble I am having in trying to describe him and contempt for the mess I am making of it.

Scottie is ably aided and abetted in all his works by his chief engineer, known universally as Greggy. His real name is Gregorsen, and he is a tall Norwegian with flowing blond hair and a beard and moustache of the best Father Christmas variety. He is a lively character, with a gift for humorous appraisal of his own way of life. 'You must think we are a lot of crazy bastards,' he once observed, 'but we have to act the way we do to stop ourselves going round the bend.' Strange though some of those activities might appear to men fresh from an English urban civilisation, strange though it seemed at first to hear men carrying on abusive conversations at the tops of their voices across the smallest of small cabins, I think we all came to understand the basic truth behind Greggy's remark. For, especially on days when it is too rough to fish, there is precious little to do while lying at anchor in a small and overcrowded ship off a place like Gough. And it is on such days that the whisky bottles are brought out and the crazy antics come to the surface. Under such circumstances, when there has been no fishing for several days, when the prospect of a bonus for a successful voyage seems remote indeed, when the rain is sluicing down and the sea making up and the fishermen getting restless in the fo'c'sle, playing the fool is the best way of forgetting the world outside and keeping frustration away.

We on shore, of course, provided another way of filling in the time on non-fishing days, for it was usually possible to land at The Glen even then. We too found fresh faces pleasant to see, and never tired of listening to Scottie's tales of past adventures around the islands. Of how, for example, his previous ship, the *Pequena*, had lost her rudder twice while at sea, and how on one occasion he had taken a tow from a frigate which had attempted to steam at ten knots, and had pulled half the ship's bows out. Of how, on the other occasion, he had brought his crippled ship round Tristan to Big Beach, steering with improvised tackle. They then took her in as close to the shore as they dared, moored her with her bows towards the open sea, and trimmed her so that her stern lay high out of the water. Greggy and his assistants — all sign of their crazy antics now hidden — had then worked night and day, often waist-deep in sea, and usually soaked to the skin, in order to fit a temporary rudder, knowing as they worked that the wind need only veer to the north-east to send the ship irretrievably onto the sand.

While ashore on non-fishing days, our visitors often took the chance to have a bath. Bathing facilities aboard were distinctly limited, and a dip in the stream, cold though it was, was a welcome change. Occasionally they tried swimming in the sea, though we ourselves had been deterred from this by the coldness of the water and by the occasional dark dorsal fin of a shark cruising off the Archway Rock. After their baths they naturally required warming up again, and this was a process with which we were able to assist. We had with us what must have been the strongest drink in the South Atlantic — over-proof Naval rum — and even Greggy admitted that it was 'fire-water' though he came back for more. In between whiles we got a lot of good advice about the island's currents, weather, and landing-places. At first Scottie and company had a low opinion of expeditions in general; they could not see what we wanted to do on Gough and tended to class us as 'a lot of bloody boy scouts'. But when they saw the neat little Settlement in what had been a deserted valley their attitude changed. As the map began to grow, so their interest increased, and in the end they even conceded that there might be some purpose behind collecting plants and beetles.

The ships were invaluable to us in many ways. When, in the early morning, we wanted to know what the sea was like and whether landing was possible at the other end of the island, there was often a ship there and the report would decide our day's work. If a dinghy party made an error of judgement and reached a place only to have the wind freshen against them, making it impossible to get home, there was often a ship in the lee near by, and this acted as a real safety factor. Take an example — on April 14th — when a survey party had been to South Point. The wind had been very light in the morning, but by mid-afternoon the sea had begun to whip up white before a fresh north-easter, and it was clear that the return round Haulround Point would be difficult. For rowing against wind and current was slow work, and the dinghy had little freeboard in her bows so that she tended to ship water heavily when heading into a short sea. So we went out to *Tristania*, which was anchored near by, ostensibly to ask their opinion of the weather, but in practice knowing that it was almost certain to agree with our own.

We were greeted by Tommy Roseveare, the radio officer.

'Hello, we were expecting to see you. We were watching you this morning on the Point.'

Otto Mohr then came out of the chart-room.

'Good afternoon, gentlemen.'

'Good afternoon, Otto. What do you think of the weather?'

'I don't think you will get home tonight,' came the reply. 'You had better bring your things on board. Then tomorrow it may be fine, or else I may have to go round to The Glen myself.'

So we did bring our things aboard. We were given bunks in the old saloon, and settled down there while the rain spattered against the scuttles and the clamour of fishing went on. Fishing from the ships works in the same way as fishing from on shore at Tristan, in that it is done from thirteen-foot wooden dinghies, using baited nets lowered to the bottom. When the dinghies are full they row back to the ship and their catch is heaved up in a net spread over the dinghy amidships, and brought inboard, weighed, and processed. On this occasion, since the weather was deteriorating fast, most of the dinghies had already returned. Only one, which had been fishing way off the other side of South Point, had yet to arrive, and it was in sight and approaching slowly. At last it drew alongside, and a hook was passed through the rope-loops around the margin of the net. The winch purred into action, and the net gathered up, lifted slowly out of the dinghy, and began to swing with the motion of the ship as it was hoisted up towards the rails. The dinghy pulled forward away from under the hanging mass, and it was as well that it did. For, just as the catch — and it must have weighed a thousand pounds in all — began to swing inboard, a wire snapped, the hawser whipped back through the blocks, and the whole lot fell. It missed the stern of the dinghy, and the back of a stooping man, by about six inches, slumped into the sea, and burst in a flurry of escaping crawfish. We, from the bridge, had been watching with amusement the efforts of a single fish, which lay on the gunwale, to squirm over the last few inches into the sea. As the mate summed it up: 'There we all were getting worried over whether one fish would escape, and in the end we lost the whole bloody lot.'

And we very nearly lost a fisherman as well, for if they had not pulled the dinghy forward the whole thousand pounds of crawfish would have come squarely on a man's back.

On the whole, however, the fishing ships have a good record of freedom from accidents, and those that do occur are occasioned chiefly by the folly of the men who are lost.

The Cape fishermen are rather liable to panic in an emergency, and when the weather gets bad they will try to row back to the ship rather than go ashore, as the Tristan Islanders do, and wait for improvement. As a result they sometimes get blown out to sea, and if the ship does not see them, may not reappear. Roger saw how such an accident could happen, once, in the bay near the South West Point called Snug Harbour.

Two Cape fishermen were rowing back to the ship against wind and current, in some panic, which led them to row with two pairs of oars and much splashing. This splashing, and the way in which the dinghy dug her nose into the seas, caused her to ship a lot of water, and baling became necessary. Instead of one man doing this while the other sculled on, both stopped rowing, grabbed tins, stood up, and began to bale frantically. Because they stood up, they acted as sails, and the wind drove them back so fast that by the time they settled down to row again they were farther from the ship than when they had started. So it went on; frantic rowing alternating with frantic baling, and all the while the dinghy was moving slowly out to sea. By the time the ship arrived to pick them up they had travelled nearly a mile.

Only twice did we see ships other than the two fishing vessels between the time of our landing on Gough and the arrival of our relief. Both these ships were whale-catchers, belonging to the Norwegian company Thor Dahl. We sighted them early one morning, and called them up with an Aldis lamp, and soon afterwards we heard the second mate of *Tristania* jabbering Norwegian to his compatriots over the radio. The two catchers and the two fishing ships joined one another in the lee of the island, where the non-fishing day was whiled away with a party. Then, halfway through the morning, the two catchers reappeared round the jutting nose of Haulround Point and headed out to sea. Through binoculars we could see their bows dipping into the swell, and the clouds of spray flying over the bridge, and rejoiced in the fact that we were not aboard them.

They headed for Tristan, there to rendezvous with others of their fleet and re-fuel in the lee of the island. Gough, too, has been used by whalers as a re-fuelling place, and it has been suggested that the Russian factory ship *Slava* has called there in the past. Much mystery always surrounds the movements of pelagic whaling fleets, but in this case there is some evidence that the suspicions are correct. On a stone slab left on Gough by Ziegler and his fellow diamond prospectors later visitors have also cut their names, and there is one name in a strange script not unlike Cyrillic. Before going to Gough we had rather hoped that we might meet such visitors, and Nigel had even added a Russian phrase-book to his baggage. But alas, we did not even meet the Norwegian whalers, and were thus deprived of the chance of tasting those extraordinary whalers' drinks of which the most potent is said to be a distillate of boot blacking strained through bread.

Christmas was our first main festivity on the island, and the day proved to be fine and warm. And again, there was little in the atmosphere on that day which suggested life on a remote 'desert island'. We held a service in the morning — we usually did on Sundays as well — and we listened to the broadcast programmes and especially the Queen's Speech in the afternoon. By this time most of us were in a state of torpor, for the lunch had been as vast and filling as any at home. Having no turkey, roast albatross chick was the main course, stuffed, of course, and accompanied by the usual vegetables. The young Gony turned out to be very good indeed, and the reason why there are none of this species left on Tristan was immediately apparent.

Then, after Christmas, our first mail from the island had to be got ready, in case *Tristania* decided to return to Cape Town early in January, as was her usual custom. We had a vast stack of letters which we had promised to post for stamp collectors all over the world, and on one wet day the whole Expedition sat down and systematically cancelled and registered these covers.

The stamps that we used were those of Tristan, which are a most attractive pictorial set showing views of the islands and of local customs and animals. The half-crown stamp shows a view of 'An elephant seal at Gough Island' which is remarkable from two points of view. In the first place, the background and foreground of the stamp are unrelated. The background is taken from a photograph obtained by the *Pequena* in 1948, and it shows the view into Snug Harbour from the south. South West Islet is conspicuous on the left, Rockhopper Point in the centre, and South West Point on the right. But this picture is taken from a ship, and the rock or sandbank (it is not quite clear which) in the foreground of the stamp, on which the 'elephant' is lying, is fictitious. There is about twenty fathoms of sea in the position indicated. Then the 'elephant seal' itself is partly fictitious also. For, while it has a perfectly orthodox head and proboscis, its hind flippers are shown turned forward beneath it in the manner of those of a fur-seal. This is a physical impossibility in an elephant, and the picture in fact confuses a diagnostic character which serves to separate the two chief groups of seals. It is nearly as bad a mistake as the celebrated attachment of lion's claws to a seal on a Newfoundland stamp.

It was soon after Christmas that we had an important message from Robert Chambers in Cape Town, who, much to his wrath, had been advised by his doctors that he should not return to Gough and was instead on the point of sailing to England. His cable read :

> 'DOCTORS APPROVE HEANEY GOUGHWARDS FEBRUARY ACTION PENDING POSSIBLY FLY . . .'

Ever since he had been evacuated Robert had been concerned lest the lack of a full-time surveyor should reduce the efficiency of the Expedition. We had never dreamed that John, first ruled out as unfit, and then newly married, would be able to come, and had not even discussed the possibility. Now it transpired that John had been given the 'all clear', and that Catherine was actively aiding and abetting the process of getting him to Gough after all. She it was who found a cancelled seat on a plane to South Africa and bundled John off at thirty-six hours' notice in time to catch the *Frances Repetto* before she sailed for Tristan. Hardly surprising that a paper came out with the headline, 'Off to Gough Island — thanks to wife that hustled'.

John had a seasick voyage out to Tristan with Scottie and company and spent twelve days on the island, where everybody behaved with their usual kindness. He attended a wedding and the 'Big 'Eaps' and dance that followed it; he climbed up onto the Base, commenting over the last few feet that 'one feels like Chad — nose propped over the brink, thinking "Wot! no more cliff"'. And from time to time we had wireless conversations in which a very short account of our doings was given to him.

The situation at this time was apt to be trying. There was John, who had started the whole Expedition as a personal venture, sitting on Tristan simply bursting with keenness to get down, and in the meantime to hear everything about everything. There were the rest of us on Gough, in the midst of a routine, feeling perhaps not unlike a schoolboy might do when examination time comes along! Altogether it was a tremendous relief when Scottie, after fishing around Tristan for a while, decided to come on down to Gough and bring John with him.

Arthur Rogers and John Lavarello had left us by this time, returning with *Tristania*. They had already given up a good deal of their own work to come down to Gough, and the time had come for them to go home, lift their potato crop, and attend to other business. We had seen them go with regret, for they had made a real difference to the success of the Expedition. Their attitude was summed up by the remark which they both made, 'We come down here to help you all'. Which they certainly did. Now John was bringing two other islanders to replace them; two younger men who were also to prove good company and a great help. Harold Green was twenty-one and Ernest Repetto twenty-nine, and both had fished around Gough and had a good knowledge of its beaches and sea-ways.

It was on February 3rd that Roger and I, waiting at

Dell Rocks, saw the bows of the *Frances Repetto* roll out from behind Reef Point. There was a fresh north-easterly wind, and the waves were running high up the beach. Landing might just have been possible — would have been possible — if a dinghy was prepared to lie off and wait for a smooth time, but there was no chance of landing all John's and the islanders' kit. So Scottie steamed past The Glen mouth, close inshore, and then went off to anchor in the lee at the south end of the island. Next day the sea had moderated and the three of them were able to land without difficulty.

So John was again reunited with those whom he had last seen on a London quayside nearly six months before. And, as if to celebrate his arrival, we had one of the finest afternoons for weeks; a sparkling sunny time with every colour at its most vivid, and every wrinkle on the face of the Hag's Tooth standing out sharply in the clear air. We talked and talked, and in between talking read letters.

Life on a 'desert island' involves personal relationships, and I would be shirking a duty if I said nothing about such things. This seems to be the most fitting time to introduce the subject; a time when the return of a man who was much more than simply the original leader of the Expedition would have strained those relationships if anything was capable of doing so.

We spent six months on Gough Island, and during that time I do not think there was ever a really serious quarrel. There were occasions on which people became more or less 'prickly' and reserved; they were often justified, and they never came to open dispute. In part, this good fortune may have been due to our being extremely busy. 'Undoubtedly a powerful reason', wrote Apsley Cherry-Garrard in *The Worst Journey in the World*, about similar experiences under the more difficult conditions of an Antarctic expedition, 'was that we had no idle hours; there was no time to quarrel.'

This was in part true of us; if one was not always occupied one certainly felt guilty at not being so. We were all enthusiasts over our jobs; we all had our own department in which success or failure was our own responsibility; and we all knew that the party as a whole would be judged by our own individual achievements in our different fields. This made for determination not to let ourselves or the others down. Then, we were all interested in one another's work, and realised that it had a bearing on our own, so that there was a good deal of mutual encouragement.

These things certainly helped to avoid friction and promote understanding. But there was something beyond that, some definite resolve by individuals to try not to become irritated by their fellows. The longer such an atmosphere lasts, the more it is prized, and the more conscious the effort to avoid disrupting it becomes. Before John arrived I remember being very conscious of this, and hoping that his keenness would not lead to too critical a judgement of previous work or methods, with the consequent upset of harmony. This was of course sheer stupidity on my part, and once he did arrive it was obvious that he was just as concerned over this as anyone else was, and just as determined to keep the friendly atmosphere. I mention the subject only to show how consciously one can prize domestic harmony in this life.

In fact, one of John's main objects in beginning the Expedition was to prove this very thesis, that a carefully picked party can live peacefully under testing conditions, and can accomplish valuable work. The secret of success is undoubtedly the subordination of the individual to the needs of the Expedition as a whole. There is no doubt in my mind that the regular short services that we held on Sundays did much to remind us of the need for unselfishness. And the presence of Tristan Islanders, who are sincere Christians and who have not acquired the reticence with which more 'civilised' people tend to discuss their religion, was a potent force. The qualities which make for success in expedition life are the same as make for success in practising Christianity anywhere. But the merit of expedition life is that it makes the acquisition of those qualities an obvious essential.

If your colleagues have these qualities, or are trying to approach them, then it is impossible to lose your temper over their minor shortcomings or at any rate to lose it for long. We might at times differ over courses of action; one person might think another foolhardy over making a landing in a doubtful spot, while the other might feel frustrated at the way a less skilled or confident companion hung back when it came to climbing a cliff. But these were temporary irritations, and were made up for when their cause, soon afterwards, did something self-sacrificing for the general good. So it was that we kept on terms of friendship throughout the Expedition and after it, and so it was that John and I came to adopt and carry out a system of Joint-Leadership which would have been unworkable under any other conditions.

But I suspect that the determination to live peacefully under expedition conditions would neither arise nor persist in a party which came to doubt the value of the task it had imposed upon itself. 'Why do people go on expeditions anyway?' The question is asked more often than one might expect, and it demands some answer.

'And I tell you,' wrote Cherry-Garrard, 'if you have the desire for knowledge and the power to give it physical expression, go out and explore. . . . Some will tell you that you are mad, and all will say "What is the use?" For we are a nation of shopkeepers, and no shopkeeper will look at research which does not promise him a financial return within a year. And so you will sledge nearly alone, but those with whom you sledge will not be shopkeepers; that is worth a good deal. If you march your winter journeys, you will have your reward, so long as all that you want is a penguin's egg.'

A Scottish doctor, who accompanied a whaling expedition to the Southern Ocean, has written of his companions as 'psychopaths'. Psychopaths, that is, in that their characters demand that they should be doing hard, physical work in discomfort and isolation. Psychopaths in that 'normal' society has at best a transient appeal, bearable for a few years, even attractive for a few years, but unsatisfying in the end. And surely our age is full of the symptoms of dissatisfaction with the life which we today call 'civilised'. Never before have so many people sought to escape from it through rock-climbing, through walking, through cycling. Never before has what we might call 'adventure by proxy', in the cinemas, the television screens, and the football matches, been such a dominant passion. People's work, which should be a governing interest in their lives, has become so unsatisfying that their attention is concentrated on reducing the number of hours worked and increasing the financial reward. Work has become a means of making money, to use in time of leisure to supply, or to attempt to supply, the things that work does not offer.

Anybody who has lived for a time in isolation comes to look on modern civilisation from the outside and to see how unnecessary most of our so-called amenities are. For expedition life, in particular, provides the two great essentials for a satisfying existence: work that is fascinating in itself, and a community which is based on close personal relationships. The joy of life in a small community, be it ten on Gough or three hundred on Tristan, is that there are few enough of you for your society to be based on personal contacts. Your neighbours are people to you, not mere names, and all of you can be concerned in decisions controlling your common welfare. Your lives are not hedged about with rules, taxes, and commitments made by people you do not respect and over whose actions you have no control. The happiness which the community of Tristan da Cunha radiates under conditions of life from which the average Englishman would recoil in horror is a demonstration that amenities are irrelevant to contentment.

Expedition life, then, appeals because it allows the individual to join in a society to which he himself must make an important contribution in his work and his daily life. But it is not a life for the selfish, none the less; the more selfish a man is, the more outstanding a failure will he be.

But many people would hold that it is not simply the fascination of the work or the close comradeship which makes expedition life satisfying, but also the close contact with nature. Certainly the majority of people find more beauty in things of the country than in cities, and certainly life spent in contact with the land is more satisfying, for many, than a more artificial environment. Some might say that this is the primitive in man yearning for the forests and the caves of yesteryear. Others might say that by living close to nature one finds oneself dependent on unpredictable and uncontrollable phenomena. The contact with things greater than oneself has an influence on the mind that is usually for good. However that may be, those who have experienced it know that such contact with nature adds delight to expedition life. Turning aside from our urban and industrial civilisations, and from distrust and rumours of war, one can echo Gerard Manley Hopkins's lines:

> And, for all this, nature is never spent ;
>   There lives the dearest freshness deep down things ;
> And though the last lights off the black West went
>   Oh, morning, at the brown brink eastward, springs —
> Because the Holy Ghost over the bent
>   World broods with warm breast and with ah ! bright wings.

Yet, for all this attempted analysis, I know that there will be many who will remain unconvinced. For, in the end, all these questions can only be answered by reference to a personal scale of values. Early mountaineers found it necessary to justify their sport to the world by hiding behind a screen of science; later, when they had grown bolder, they cast aside this screen 'and admitted to a horrified world that they climbed because they liked it'. Men explore because they like it; they may justify their action by reference to a multiplicity of -ologies, but, as with religion, this justification follows upon conversion rather than precedes it.

The accusation which all those who confess to preferring this kind of life must be prepared to meet is that of 'escapism'. An accusation that implies that it is something of a crime to turn one's back on the 'responsibilities' of society at large, and move to the fringe. But when one considers the frustration, ugliness, and bitterness so prevalent in society today, surely one may conclude that there are some things from which it is good to escape. And, surely, an aversion to such things need not merely be negative? Most people who find solace in climbing mountains, in sailing small boats, or even in going to football matches, do not do so simply to forget dull routine, but because these pursuits give them something that is of positive value. A search for better things and a fuller life has characterised man down the ages. Today much of the energy of that search is devoted to technological progress: progress toward a hoped-for millennium to be achieved through the complete control of nature. Judging from the results so far attained, it is open to doubt whether satisfaction lies at the end of that road. It is more than possible that the frustration, ugliness, and bitterness of which I spoke derives from this search being in the wrong direction. Physical removal from society, by expeditions or by going to live in small, rural communities, allows a few of us to change the direction of our own search. But it might be good for others to change direction, at least in mind, and surely that is what religions are about?

The atmosphere in the hut was a very cheerful one. Especially in the evening of a fine day, when people reassembled after a day on the mountains, or, perhaps, had come down after a spell at a high camp. There would be new observations to pass on: had Nigel seen this plant before? did Roger know that there was another trachyte dome south-west of Sea-hen Crag? had Michael ever seen a bunting feeding on sedge fruit? Then, there might be a queue for baths, which were originally taken in the stream, but which, as the season grew colder, were rendered more luxurious by an invention of Nigel's. This invention involved taking a 45-gallon oil-drum and cutting it in half lengthways. One half was then chocked up on boulders, and the would-be bather had simply to fill it with water, light a fire underneath and wait for it to reach the desired temperature. It proved important to make sure that the fire was really out before one got into the water, otherwise one found out what it must feel like to be boiled alive by the cannibals of the popular cartoons. Before supper, James sometimes doled out a glass of 'medicine' all round, and conversation would range over many subjects. Nigel, for example, might recount the perils of driving on West Sussex roads. 'There's an old girl that lives near us,' he once began, 'that drives round in a grey Austin seven without any brakes.' 'Ah, yes,' James broke in, 'she's hit us!' Or Philip might recount family history. He was sure of a laugh before even finishing a story beginning 'My Uncle . . .', and also had an equally entertaining friend whose life's work appeared to be the testing to destruction of innumerable rubber bands.

Life on a 'desert island' is associated in many minds with the consumption of exotic and often nasty dishes. We too 'lived off the land' to some extent, and, as Commander Wild wrote in 1922, 'this is an island on which a shipwrecked mariner could live without undue discomfort'. Fish were easy to catch from a dinghy; you simply sculled out into the kelp and dropped a baited hook over the side. On one occasion sixty fair-sized Soldiers and Five-fingers were caught in a little over the hour. Then we also ate a fair amount of crawfish, caught with nets borrowed from the ships. Whenever a seal was shot as a specimen, liver and sometimes shoulder went home to the kitchen, and it is our considered opinion that seal liver is the equal of calf liver. Among the birds, the Wandering Albatross is the most tasty, but as it is also the rarest of the albatrosses, we only took five in all, and two of these were really killed because we wanted the skins.

Young Mollies made our Easter lunch, and were excellent, but we only ate one Peeoo — the victim of the aerials. Once we had what an islander would call White-breasted-

Black-Haglet pie. For, on a night of over-successful light trapping, so many Atlantic Petrels came down that we lost about twenty through accidental suffocation in the box in which we had put them to await attention. Having these dead birds on our hands, the next best thing, after we had weighed and measured them and selected the best skins, was to eat the surplus, which we did, finding it excellent. One wonders none the less whether these birds would taste quite so good in civilisation; whether seal liver would really be so very popular if one were to serve it as an entrée at a College feast.

Our attempts at growing fresh vegetables met with little success, and we became convinced that the general agricultural potentialities of Gough Island were also distinctly limited. It would take great effort to clear the forest at the south end of the island, where lies the only area of fairly level lowland. Even if it was cleared, the soil below is peaty, and full of boulders. The valleys have no agricultural possibilities, for their sides are too steep and their floors too narrow to cultivate anything, even if the initial forest clearance did not bring down the whole hillside in landslides. The uplands would, it is true, support sheep, but the frequency of bogs would make it necessary for a watch to be kept on them, and it might well be that these bogs would cause the failure of sheep, as similar bogs have on Kerguelen and Marion. Unrestricted sheep, or goats, would be a menace anyway, because slowly but inexorably they would prevent forest regeneration, and once the steep slopes were denuded of trees there is little doubt that whole hillsides would slip down in ruin. No, apart from grazing a few sheep on the coastal grassland to provide fresh meat for the Weather Station, there seems no prospect in farming on Gough, and the potential damage would outweigh any temporary advantage gained by allowing sheep to run free. Gough Island, wrote a previous visitor, 'is a naturalist's paradise', and its greatest value for the future may be to keep it so.

Towards the end of our stay we suffered from the attentions of the mice. Now, one of the things which every newspaper reporter in South Africa and England seems to have got hold of is that there are mice on Gough Island. Before we had even left, *The Times* came out with a column headed 'Of Mice and Men', while the *Evening News* had a leading article on the 'Lament of a Ginger Cat'. This referred to Thomas, a ginger kitten which Nigel was to have brought had it not been feared that he would have preferred buntings to mice. 'Going to Ginger Cat Heaven, are you,' wailed the *Evening News*, 'and not taking Ginger Cat with you?' . . . 'Miaow, miaow, go widdershins beneath the Southern Cross; may albatrosses haunt you by day and great white owls by night.' 'May your milk curdle in the pails and all your kittens be madly maladjusted.' 'May the tame mice not be tame at all but fierce and cunning, as large as ponies and as slippery as seals. . . .' There was a lot more of it; it was really a masterpiece of its kind, ending with a parting shot, 'May I ask if you have remembered to take plenty of cheese?'

We had answered the *Evening News* by cable from our ship, reassuring them that we had eighty pounds of cheese. When we landed the mice seemed to know all about it (perhaps they were readers), and began to queue up at the traps and in the kitchen. When, later in our stay, they learned that only polythene wrappings concealed such delicacies as porridge oats and cornflakes, they played havoc in the stores, and war was declared. James may be described as the architect of our victory, for he produced a most successful trap, made from a large flour tin. This consisted of a reservoir, filled with water, in the centre of which a bait was supported on a tapering column greased to render it unclimbable. This bait could only be reached by way of four platforms, pivoted on the sides of the tin so that when a mouse neared the centre the platform tipped up, depositing it in the water. Mouse after mouse walked the plank; mouse after mouse splashed to its doom, and at the end of ten days James had over three hundred victims, and we had peace.

'Is it true that the only form of wild life on your island was mice?' asked a reporter, on our return. I would not wish anybody to labour under such a delusion (as many may well be doing if they read the newspaper accounts of the Expedition). So I will pass on to the other aspects of our life on the island, and say something of the wild life, of the surveying, and of the story of the island itself, and of the way in which this knowledge was gained.

CHAPTER EIGHT

The Face of the Land

WHEN Robert Chambers was hoisted aboard *Tristania*, he left nobody behind on the island who had ever done any surveying. But there was a comprehensive set of instruments; two theodolites, three plane-tables, a rangefinder, steel tapes, clinometers, and various levels and staffs. And our earliest journeys showed that the existing maps of the island were so inaccurate as to be useless even as a rough guide. None of the five valleys that lay to the north of our own glen was shown; the west coast was represented as a straight line whereas it is deeply indented, and most of the peaks were similarly unmarked. The need for an accurate map was so obvious that, surveyor or no surveyor, it was unthinkable that we should leave the island without making some attempt to produce one.

So we unpacked the instruments and examined them, seeking to discover from their design the way in which they should be used. After a short conference we agreed that the first task was to carry out a triangulation scheme, using the theodolite, since this would provide a network of fixed points on which the detail could be based. James, who in addition to his many other talents was a capable radio operator, took over from Philip, who was thus free to accompany me to High Camp in mid-December to start the mapping.

High Camp was placed, as we have said, on the southern edge of the Barren Dome, two thousand feet above the sea. A stream out of a high valley dropped over a waterfall twenty yards above the tent, to flow through a little dip in the ground past the doorway. The site was sheltered by a wall of rock to the south, and by the rise of the ground to the west. Northwards the slope rose slightly, before ending abruptly in a sheer cliff over two hundred feet high, down which the stream plunged into the depths of the valley below. The camp site, therefore, was on a shelf of fairly level ground in the head of the valley (which we soon named Camp Glen), and from the doorway you looked out over the glen to a craggy ridge on the far side. It was a grand view on any day, but best of all on a still, fine morning above clouds, when only the peaks broke through the sheet of white mists into the sunlight.

Philip and I reached High Camp for our first surveying spell on a fair evening, but one with an increasing quantity of high cirrus cloud. This was an ominous sign, for it usually indicated the advent of a depression. During most of our stay the weather at Gough Island was reasonably predictable, depression following depression in regular sequence. The first sign of approaching rain was the appearance of high-level cirrus, and this was followed by medium cloud giving the sky a very grey and 'watery' appearance. Low cloud would follow, and rain begin. The wind by this time would be in the north-east, north, or north-west and the barometer would be falling fast. Rain usually continued for between twelve and thirty-six hours, and then the wind would show signs of veering more to the west. This was a hopeful sign, and it was normally followed by breaks in the clouds, which also tended to lift off the hills, and give showers rather than a steady downpour. Then, with the barometer rising fast, the wind would settle in the west and blow strongly for a while before passing to the south-west. The south-west was the fine-weather quarter; the sky would either be clear or the clouds would be high, giving only infrequent showers. The fine conditions might last a couple of days or only a few hours before the cirrus of the next warm-front system began to appear.

From this it is obvious that we could expect about one day in three to be really wet, another to be showery, and then the third to be more or less fine. In a spell at camp, if surveying was the object, we expected to spend two days out of every three lying up, for heavy showers and strong winds make critical work just as impossible as continuous rain. Lying up in a small tent on the mountainside is a pastime of which one can get very tired. The tents we had were excellent in that they were small, well guyed, and strong, and they withstood some severe gales without harm. But their floor area was only about seven feet by five, and they stood only five feet high at the crest, diminishing to a couple of feet at the walls. The walls soon became very wet after really heavy rain, and, though they never leaked, it was necessary to take great care to avoid touching the fabric. The ground-sheets, which were sewn in, simply were not waterproof, and allowed any puddles that formed under the tent to pass up into its interior. We soon surrounded the tent with a drainage system of ditches, but even so a considerable quantity of water collected on the floor after twenty-four hours of rain. We ourselves kept dry because of our rubber air beds, which raised us a few inches above the floor.

It was a cramped existence, and a very frustrating one. We would lie in our sleeping-bags, reading and sleeping, with occasional spells of writing diaries or letters, thus filling in the time between one meal and the next. I had taken Boswell's *Life of Johnson*, which proved an excellent camp book. It was packed with interesting information, yet if one was feeling at all drowsy it could be guaranteed to have one asleep in five minutes. Twenty pages proved sufficient to keep Philip happily unconscious all day. At night we often had visitors — mice — and if we kept still enough they came in during the day as well. It proved impossible to secure the tent door against them, and if one tried they only gnawed holes in the walls. Mice are abundant all over the high ground of Gough, and they very soon learned that the tents contained much more food than the world outside. Thereafter they flocked in every night, and, lying awake, we would hear a pattering of exploring feet around the air beds, and among the cooking pans by the door. When they hopped onto an air bed it resounded like a drum, and every now and then one would run across a sleeping-bag. We were not particularly intolerant people, but most of us drew the line at mice running over our faces in the middle of the night, and when they became really abundant action was necessary. At High Camp on one occasion fifteen were killed, one after the other, in a break-back trap which was re-baited after each corpse had been thrown down the hillside for the skuas. We then had peace — for a time.

On our first surveying trip Philip and I were fortunate in having one extremely fine day, in which we completed three rounds with the theodolite, and built a number of cairns on prominent peaks. The third day was less pleasant; low clouds concealed all the chief summits of the island and we spent many hours waiting on a subsidiary peak for a fine period which never came.

On the fourth day we awoke to lower clouds and a slight drizzle. We then held a discussion.

'I did say that I would come down today,' I began. 'It does seem important that we put some cairns up on the Rowetts before extending the trig. in that direction. If we do go down, then get a series of fine days, there is a great deal of survey that can be done from Base just as easily as from here.'

'There's no doubt that cairns make a big difference,' said Philip. 'But if we do go down, we shall not come up here again this side of Christmas.'

'I think there is plenty to do at the other end of the island.'

So we packed up our possessions, slung our rucksacks on our backs, secured the tent, and set out. The clouds hung low on the flanks of Middle Peak, and visibility was limited to a hundred yards. We hurried across the firm slabs of a rock dome above the camp, crossed a tongue of bog, and began to traverse round the peak.

'Are you sure you know the way?' was Philip's anxious query.

I thought that I did and we plodded on across a series of little gulches, rounding the shoulder of the hill and beginning to turn northwards.

'Ah, we're a bit too high,' I remarked, noting with relief a familiar landmark. 'Look, there's the Haystack Rock, with the rock that I call the Sphinx beyond it.'

'You know, any zoologist who thinks that that lump of rock looks in the least like any animal, legendary or otherwise, has a warped imagination,' said Philip critically. 'But there's the waterfall, which is a much better mark to aim for.'

We descended, crossing the stream above the waterfall, and began a steady climb along a ridge that ran towards Mount Rowett. As we did so it came on to rain really heavily. The northerly wind had freshened, and it was driving great sheets and curtains of rain across the slopes leading down to the Hag's Tooth. The wind was so strong it was hard to stand against the gusts; the rain was so heavy that soon the whole hillside began to run with water, and every little gully showed white. This was an ominous sign, for the lower sections of our route led across The Glen stream, and even in its upper reaches this was a considerable torrent. When at last we reached it our fears were realised. Crossing was not too difficult at the place we called Upper Watersmeet, for there the branches of the stream were small, but even so the water was knee-deep. The next crossing-place would, we knew, be easier, for it was broad in relation to its depth and there were stones against which we could brace ourselves. But the third crossing-place was treacherous even when the stream was low, as John Lavarello had found when he had lost his footing on a smooth, slimy rock slab. We removed a fixed rope from the side of a small cliff where the Walldyke, largest of all the island's dykes, crossed the stream. Roped together, we approached the bad place, to find our fears little allayed by close inspection. The torrent was narrow here, rushing between a low cliff on the far side and some large boulders near at hand, and plunging over a small waterfall immediately below. Philip secured a firm stance from which he could have held me had the worst happened, and I waded gingerly into the water. It was extremely unpleasant. I could just make headway against it, but the sideways drag was tremendous and got worse towards the far bank. Fortunately there was a ridge of firm rock projecting from the cliff on the far side, and well clear of the water, and I was able to take a good grip on this, so that even if my feet had been washed from their holds I could have hung on. A step, and a pull, and my left foot landed on a stone where the current was slight almost at the same moment as my other foot came away from its hold. I scrambled up and took a firm grip with both hands on the trunk of a tree which grew on the bank. Philip then followed. He had nearly succeeded, when there came a splash and a jerk on the rope and he disappeared over the waterfall. For a few seconds the strain was very great, then it slackened as he was washed in a semicircle at the rope's end into slack water under the bank. Then the tension on the rope eased, and a voice called, 'All right, unrope, will you, and I will climb up the bank beyond.'

I did so, and we reached a quick decision. 'The fewer incidents we have like that, the better.'

The motion was carried unanimously.

'The only thing to do is to keep on this bank all the way down. It means struggling through a lot of forest, but there's no real need to cross until we get to the penguin rookery, and it is easier there.'

Philip nodded assent, and we squelched on. Long before this last immersion we had reached that pleasant state of saturation at which one ceases to worry about getting any wetter. The rain was fairly warm, the exercise made us warmer still, and we no longer objected to rivulets draining down our necks. At last, after an hour of hard going, we forded the stream again, and sighted the hut. We had proved one thing by our experiences: that in times of flood, parties in Camp were virtually cut off from Base and vice versa. We struggled round the last corner and reached the hut.

'Good Lord, talk about dying ducks in thunderstorms,' was James's greeting. 'Here, this is too good to miss.' He grabbed his camera as he spoke, and began to give instructions in the crisp tones of the professional film director. 'Now please go back into the water, both of you, and do it again.'

December was a reasonably fine month, and two days after this incident there came a warm, sunny morning which took me to the top of Mount Rowett to build cairns on all its four peaks, on a low hump that jutted westwards beyond it, and on two hilltops on either side of Gonydale. The sacrifice of a potential survey day in order to build these cairns proved well worth while when we came to observe onto them at a later date.

Then, early in January, the weather deteriorated. Whereas in December we had had nearly eight inches of rain, in January this figure rose to twelve inches, and rain fell on twenty-seven days in the month compared with twenty during December. This was enough to restrict survey work greatly; day after day I would be prepared to set out for Mount Rowett with the light Kern theodolite which we used for mountain work, and day after day low cloud would drive me to my other work of collecting insects. It was not until January 14th that Philip and I reached High Camp again, and when we did, we had a most unprofitable spell. On our first day we did one round from the top of Nigel's Gap, in intermittent cloud and heavy showers driven before a cold northerly wind. The next day we marched out to Sea-hen Crag (so named from the great flock of skuas which haunted it), only to find the wind at the cairn so strong that the whole theodolite vibrated on its stand and threatened to fall over. The sea away to the north was whipping up white, and the surf was breaking heavily about an islet which was just visible through a gap in the hills.

After a day of rain came yet another abortive round, this time from the summit of Edinburgh Peak. Again we were hampered by a strong wind and low cloud, and again the tripod vibrated so that the round failed to close by over two minutes of arc. Then, that night, came the final blow.

We had brought up a bell tent to High Camp so that we could accommodate more people up there, and so that the main bulk of stores could be moved out from the smaller tent, giving more room. This tent had been pitched in what appeared a sheltered place, the pegs had been strengthened by boulders placed over them, while the snow-flap round the tent had stones piled thickly upon it. But all these precautions proved inadequate. When we went to bed, it was a still evening, at least at the camp, and we foolishly put all our equipment, including the theodolite, in this bell tent. During the night the wind got up and in the early morning we were awakened by some tremendous gusts. When we looked out the bell tent had gone. It had snapped some guys, pulled out some more, and blown about ten yards down the slope to end in a tangled mass of torn canvas jammed between two big rocks. Most of the stores were unharmed, though scattered about the hillside, but the theodolite had collided with a boulder and was badly damaged. This was not the crippling blow that it might have been since we still had a good theodolite at Base, but the loss of this light-weight Kern instrument was none the less a real set-back. We tramped back to Base in low spirits, and even though James, after a great deal of care and patience, got the instrument into working condition again, its accuracy was greatly reduced.

While Philip and I were storm-bound at High Camp, Michael, Nigel, and Roger had set up a second mountain camp in Gonydale towards the south of the island. They had had a difficult passage along the crest of a narrow ridge, and were forced to rope together for much of the time owing to a fierce wind which threatened to knock them from their steps. This second camp, near where Gonydale fell away to the forested slopes running down to South Point, was established using another bell tent, and like the first this proved of very little use. After a party coming up one day had found it in a ripped and uninhabitable condition, it was replaced by one of the smaller tents which stayed up unattended for weeks at a time.

When John Heaney arrived in early February the tempo of the survey increased enormously, for we now had somebody who was a full-time surveyor first and foremost, and whose experience ensured that we worked as efficiently as possible despite the trying island weather. I had already decided to give survey priority over my own work, so John and I became a team. We started, inspired by his usual energy, which had increased if anything by enforced absence in England, and on his first night took sights on sixteen stars to fix the position of the island; a position which John found to differ by over a mile both in latitude and longitude from that given on the Admiralty Chart. Then in the next few days we got rounds from the Hag's Tooth and from South Peak; Penguin Island soon followed. John plotted the trig. network on a plane-table sheet, and we could then begin to fill in the details. Thereafter a really fine day would send us up the peaks to continue the triangulation, while a day with low cloud but a calm sea saw us moving along the coast in the dinghy and setting up the plane-table on various headlands and off-lying islands.

The weather, too, improved enormously in February and March, the latter having only four inches of rain. The dark line of the coast and the green contour lines of the interior began to spread over the white plane-table sheet at an increasing rate. The measurement of the base line, however, caused a return to more familiar Gough Island conditions. Three of us were needed for this job, and John, Philip, and I duly trudged up the long ascent past the Hag's Tooth and onto the high plateau between Rowett and Edinburgh Peak. Here there was a long, even ridge, boggy as all level ground on the top of Gough inevitably is, and falling at a gentle angle to the west. We started by building a cairn at the upper end, and then ran the long steel tapes down into the mist, and laid a slat of wood at each tape end. It took some time to arrange these in a straight line, but we trudged back to Gonydale Camp round the west side of the Rowett group that evening feeling that another day would not only see the line measured but would allow observations with a theodolite to be made from the cairns at the two ends.

Next day, however, came in with low cloud and all-pervading, damp misty rain. Three in a tent was less comfortable than two, but apart from this the circumstances were as usual. On the third day a gleam in the sky sent us tramping round Rowett to measure the line. We did this three times, holding the steel tapes straight and exerting a constant pull of twenty pounds (measured by a spring balance). The ends of the tape were then marked on the wooden slats by knife-scratches. The length of the base line, after various corrections, was found to be 1862 ft., the three independent measurements differing by only half an inch. Accuracy at this stage was essential, since the whole scale of the final map depended upon the base line, and an error would have been magnified many times during the subsequent extension of the triangulation. Having finished the measurements, we had only to do our rounds of observation at either end. These would allow us to fix the position of two near-by peaks, and so set a scale to the triangulation network we had previously built up. But, of course, though these observations were the only thing remaining, they seemed likely to remain for some time, for low clouds continued to rush across the base-line ridge, and over the broad, boggy hollow of Albatross Plain below. At times a gleam overhead spoke of sun and clear sky above the thin capping over the island. At other times the clouds thickened and hid everything. We collected insects from among the moss and sedges fringing a stream; we watched the albatrosses which nested close to the ridge, and we waited. Now and then a Gony would sweep low over us, the wind in its pinions roaring as it came to land. Now and then a sea-hen would settle near by, and watch us carefully, waiting perhaps lest we should choose that moment to turn into carrion. Sea-hens have a partiality for perching on any upstanding object, and once or twice they landed on the theodolite, and once too on John's head. But, after sitting in the mist all day and getting damper and damper, even John's usual patience deserted him, and we trudged over Rowett and down towards the Hag's Tooth. Imagine our feelings when we dropped out of the clouds to find the whole Glen basking in brilliant, warm sunshine. For with the wind from the west, it often happens that the clouds are broken by their passage over the central ridge, giving clear sky in the lee of the island. It was so fine and the colours were so sparkling in the lee this day that all the others were busy helping James to film typical activities in dinghies along the coast.

So it was that through the fine months of February and March John and I tramped from peak to peak and camp to camp, with theodolite and plane-table, sometimes mapping on the high ground of the island and sometimes lying up in the tent waiting for a fair spell. Filling in the detail of the topography and contouring the map was done using a rangefinder. John would set up the plane-table on some fixed station, or at some place which he would fix by resection, and would draw in rays pointing towards prominent objects — such as strange-shaped rocks, branchings in streams, waterfalls, or white patches on the hillsides. Using the rangefinder I would then measure the distance to these points. John would operate a clinometer to measure the angle by which these features were elevated above or depressed below us. With a slide rule I then worked out their true horizontal distances, and also their difference in height from our own. Our own height was determined by measurement of the angle and distance of points on the coast or of main triangulation stations. As a result of this procedure, we covered our plane-table sheet with a dense cluster of fixed spot-heights. John could then sketch in the contour lines in the field, and draw the stream courses.

Work on the damp, soggy mosslands of the Gough plateaux was often interrupted by the low clouds that formed over the mountains during the day. As John wrote afterwards, 'practically the only thing you could be sure of achieving on a survey trip was wet feet'. However careful you might be, however well waterproofed your boots, somewhere or other an injudicious step was bound to leave you floundering shin-deep in wet moss. We soon gave up worrying about getting our feet wet, and became used to squelching along from peak to peak. Contrary to popular tradition, wet feet, and wet clothes for that matter, do not do you any harm while you are on the move. It is the chilling effect which they can produce that leads to trouble. When we got back to camp we would kick off our muddy boots, and leave them near the tent door, and peel off two or three layers of sodden sock. These would be wrung out, and if the evening was fine, hung out to dry in the sun. Otherwise they were strung up inside the tent, care being taken to see that they did not drip into the soup. Everybody learnt the importance of keeping something in the way of dry clothes at camp, and all wet garments would be shed as soon as possible. Then in dry socks and a dry jersey, we would settle down to get the primus going and the evening meal on the way.

Camp cooking was lavish, considering that everything had to be carried up on men's backs. The Tristan Islanders were invaluable in keeping the camps supplied with provisions, and on one occasion when John and I had laid in a big stock in anticipation of a fortnight's stay at High Camp, Harold came down with the comment 'They done open a canteen up there'. Our evening brew began with soup, and two of us would cheerfully dispose of a whole packet which, according to the label, should have served from four to six people. Soup was followed by a hoosh of some kind of meat and potato. We had only one tin of pemmican — a seven-pound can brought back by John from South Georgia. Although it was five years old, it seemed good, and we had nearly finished it before somebody's critical eye discovered that white objects in the soup were beetle maggots out of the pemmican. However, they did not spoil the flavour. Our luxurious camp suppers were concluded with just a taste of stewed apple (this was a very good dehydrated product) or by a mug of hot lime juice. The lime juice was a concentrate supplied by the Board of Trade to ships, and was very popular. On special occasions, when we had come in from a long day tramping over the hills, we allowed ourselves a tot of rum in the hot lime, and this made a warming prelude to a night's sleep.

We got our really fine days so rarely that we had to be ready to take advantage of them when they did arrive. Somebody would look out even before dawn, and if the stars shone in a clear sky, breakfast was cooked by candlelight. Breakfast had a foundation of Quaker Oats, and in the dim light it was not always easy to see whether these had or had not been attacked by mice. One of my most vivid memories of High Camp is of a dark morning, with porridge boiling on the primus and John fishing with a spoon in an attempt to remove what a botanist might term 'dark, fusiform objects'. When we could see no more, we ate the porridge; we could not afford to be too particular in a mountain camp to which all stores had to be carried. We never suffered any ill effects, which may prove that you can eat almost anything if you have to!

But it was a delight, after a couple of days lying up, to scramble out of the tent on a fine morning and look out over the sea. I remember one glorious dawn when a layer of cloud stretched below us, filling the valley, and extending to the farthest horizon. The peaks alone broke through it, and stood blue-black against a pale sky. As the sun rose, the tops of the clouds, and of the high peaks above us, were tipped with fire; the tent itself soon caught the orange light, and the cloud sheet below was a blaze of colour. Even damp socks and cold, wet boots could not mar the pleasure of such a morning. It was on that same day that we set the plane-table up on the top of the Barren Dome before 7 A.M. and found a little pool on the summit sheeted with ice. And it was on that day that we got observations from four survey stations, finishing the last just before the clouds returned to envelop us, and then groped our way by instinct across a part of the island where nobody had ever been before, to reach camp just before the rain started. Days such as this made the long hours of inactivity worth while, and remain in memory long after the dull days have been forgotten.

There is something very perplexing about that mysterious attribute 'an eye for country'. Yet there is no doubt, and our experiences on Gough demonstrated this very well, that some people have a flair for route-finding, and an understanding of terrain which others lack. Seen from above, there may be nothing about a broken slope which proves to the logical mind that it ends in a ten-foot cliff rather than runs smoothly into the grassy plain at its foot. But it is, none the less, possible to be aware of the existence of that cliff. I do not think that this awareness comes from 'instinct' in the para-normal sense of that word, but from a subconscious reaction based on an experience of similar situations. One may toil up a long grassy shoulder towards a skyline ridge, and know, from the hard, broken silhouette of that ridge, that the farther slope falls away in a crag. One may guess, from the way a steepening hillside lifts to an even summit, that beyond the visible edge there is a plateau. There is something exhilarating in this grasp of the way in which a country is put together, in the awareness of the overall whole and the way in which its components of rock and vegetation, formed by a long history, go to make the landscape which we see. 'Unless you are a mountaineer, and engineer, or a surveyor,' wrote C. E. Montague, 'the odds are that the great illumination will escape you all your life; you may return to the grave without having ever known what it is like when the contour lines begin to sing together like the Biblical stars.' In these days, when a landscape tends to become parcelled up into the separate fields of geology, geography, botany, zoology, meteorology, and archaeology, the grasp of the whole which is the sum and the inter-relation of all these components is becoming harder. One of the chief pleasures of an expedition such as ours is that all these fields are being investigated side by side; the contour lines, in consequence, make a more than usually audible melody.

Mapping the coastline was done partly from the cliff tops, but where possible we preferred to work from the beaches and from off-lying islands. For it might take the best part of a day to tramp over the mountains to reach a vantage point commanding a stretch of coast, and to go from that point to one overlooking the next bay might take almost as long. So we mapped the west coast, where the prevailing swell made landing almost always impossible, from the cliffs, but we surveyed the south, east, and north coasts from Base, using the dinghy.

Let me tell the story of a typical day's coastal survey as an example. On Friday, March 2nd, we awoke at Base to a grey, nondescript day with high clouds and a very smooth, oily sea. The outlook was uncertain, but one thing seemed reasonably clear — that if the wind was going to spring up with the advent of a warm front it was going to be a northerly wind. So we decided to go northabout round the coast, and Harold, John, Roger, and I pushed off the dinghy and rowed round Dell Rocks at nine o'clock.

The row along the east side of Gough Island is spectacular. You pass first by Dell Rocks, the group of weathered pinnacles and weed-capped blinders just north of our own beach, and then enter what we later named Milford Bay. This is lined by sheer or nearly sheer cliffs up to eight hundred feet high, and above these cliffs the broken ridges of the mountains rise another thousand feet or more. The Fid itself stands at the very brink of these cliffs, and behind it there is a glimpse of even more fantastic crags and vast perched blocks looking as if a puff of wind would send them plunging seawards. Streams drop out of gullies to the beaches, in white streaks, fringed by vivid green curtains of fern and moss. Close inshore, Buttress Rock, a detached, pointed mass, rises 260 ft. from the sea, with a narrow channel between it and the mainland. Then comes Capsize Sands — named from an accident to Otto Mohr's second mate in a dinghy — the only beach of true sand on Gough. It is a favourite haunt of sea-elephants which we could see as we rowed past, lying like dark slugs on the shore. Reef Point juts out beyond the bay, with Penguin Island away on the right, and a thick bed of kelp stretching out and making rowing difficult even when you have a Tristan Islander at the oars. Farther along, a stretch of pebbles and boulders named Long Beach extends all the way to the North East Point, and this is the only stretch of Gough beach which you can walk along for any distance. Above the beach the cliffs are high in most places, though where two valleys run out they drop to only a hundred feet or so. It is a characteristic of Gough Island that very few of the valleys run out at sea-level, with stretches of good level lowland in their mouths and beaches fit to land on below them. Our own Glen is in fact the only one that really complies with these requirements — and they are essentials for a base from which access to the interior is important. It was for this reason that we had chosen it in the first place, and the sight of these two other valleys confirmed the choice every time we saw them. The stream out of the northernmost of the two has cut a deep gorge at its mouth, into which you can walk for fifty yards or more, with wet mossy walls mounting over a hundred feet on either side. Deep Gulch, Scottie had named it, and on our map we applied his name to the whole valley, which became Deep Glen.

Beyond Deep Glen we came to North East Point and Church Rock. And it is like a church too, a church with a slender spire rising two hundred feet clear of the water. High though this seems, it is still dwarfed by the cliffs behind it, for these rise for over a thousand feet in an unbroken sweep from the water's edge. Some big dykes outcrop along these cliffs and, as we rowed past, Roger took compass bearings of the direction in which they were running. Compasses proved difficult to use on the island itself. Early in the survey programme we had thought of using bearings to fix minor points, especially in wet weather, and Roger and I had once sat down to do a round of these in the lee of a big boulder on top of Expedition Peak. We started in good style.

'Barren Peak,' called Roger, 'bears two eight five.'

'Two eight five,' I answered, writing it down.

'Nigel's Cap, one three one,' he continued, walking round the rock to get a better view. 'Just hold on, I'll check that — yes, seventy-three — what did I say before?'

'You said one three one.'

We then discovered that the rocks of Gough Island were magnetic — sufficiently magnetic to make a compass read almost what you liked if you manipulated it judiciously round a boulder. This of course put an end to any idea of using magnetic bearings in survey work, and it was only for rough estimations of the line of dykes that the compasses were of much use.

It was easy enough to take bearings as we rowed in calm water round past Church Rock and into Lot's Wife Cove. Ahead, Lot's Wife herself, a tall, symmetrical sea-stack, rose 350 ft. from the water. Cone Island and Round Island, near by, were hardly less impressive. Beyond them, still over two miles away, we could see our objective — North Point. This is a narrow headland jutting out from the foot of the mountains, and commanding a good view along the shores. In the cove between Round Island and the Point *Tristania* lay at anchor, fishing, her dinghies scattered around the cove. We passed close to her, noticing as we did so the dark mouth of a cave on shore. This cave, named the Baker's Oven, was visited by the diamond prospectors in 1919, and its interior has clearly been enlarged by blasting which may be their work. It looks like an oven, for its square mouth is set within an arched recess, and, while the recess is yellowish in colour, the cave mouth is dark as if begrimed by heat.

Landing on North Point — as on many other similar rocky places — was done cautiously. Only a few yards beyond, the swell was breaking heavily on a group of blinders, but here, in the lee, the dinghy only rose and fell a foot or two with the waves. We put the instruments in rucksacks, slung these on our backs, moved into the dinghy's stern, and waited. Harold eased the boat in cautiously, watching for a smooth time. When this came he back-paddled swiftly so that the stern almost grated the rocks, and the first man leapt ashore. The procedure was repeated for the second, the remaining gear was passed out, and the dinghy paddled clear as we scrambled up the rocks and struck out for the cliff top. Like so many of these ascents, the route lay up a steep slope covered by large tussocks. The tussock was usually firm, and you could take hold and pull yourself up a steep section using the grass as a support. Occasional little rock outcrops overhung by tussock made a traverse necessary, but it did not take long to reach the narrow crest of the Point, two hundred feet above the sea.

We set up the plane-table and rangefinder there soon after noon, and the coastal features for about a mile each side were soon fixed and drawn in. Not too soon, either, for grey mists were lowering on the mountains, and a drizzle soon began to fall. Our return down the cliff was accomplished chiefly by judicious slithering down from tussock to tussock, traversing to avoid vertical sections and steep, unstable gullies. Back to the dinghy, back to *Tristania*, to pay a short social call before striking out for home.

Otto Mohr himself stood on the wing of the bridge as we came alongside.

'Hello, good morning,' he said, 'bring those things aboard and come and have a drink.'

'Those things' — plane-table, rangefinder, instruments, wireless, and other bags and oddments — were passed over the rail to grinning seamen.

We went and had a drink, and enjoyed hearing Otto's news about the fishing, and other matters. He looked at the map, at this time growing fast.

'Ah, you are getting somewhere now,' he commented. 'Very nice, yes. But I would prefer it larger — the larger the better for us, so that we can mark in our own anchorages and soundings, you see.'

Discussions passed from maps to weather.

'I tell you, gentlemen, this is the worst summer I have ever had at Gough,' he asserted. 'That bad gale we had before I went back to Cape Town in January my barometer was the lowest I have ever seen it.'

We agreed with this criticism, for it was then that Philip and I had been up on the mountain, and had lost the theodolite and bell tent. Bill Storm, the mate of *Tristania*, came in, and the map was once more hauled out for inspection. We went aft and attacked an excellent lunch, which had been kept for us, before climbing over the rail and back into our dinghy for the row home.

By now the light drizzle of the forenoon had turned to a steady damping downpour, and the ship soon vanished into the murk as we rowed in past Round Island. The wind was fresh from astern of us as we passed the Church Rock and headed southwards, and the waves were just beginning to foam at the crests, though the swell had not built up into anything to trouble us. We bowled along before the wind, the fresh gusts adding to our speed, and reached Base, in a thoroughly saturated condition, at about half-past six, after rowing fourteen miles in the day.

So the map was slowly built up: by days squelching through the mountain bogs; by days lying up in the tents watching the light wax and wane through damp green canvas; by days at sea. And on April 14th, after the most difficult of all our landings, John and I set up the plane-table above South Point for the last time.

CHAPTER NINE

Fire, Flood, and Forest

IF we had gone to Gough Island in the hope of finding evidence that it had once formed part of a lost mid-Atlantic continent we should have been sadly disappointed, for an examination of its rocks soon convinced Roger LeMaitre that it is formed entirely of volcanic materials. There are none of the sandstones or limestones that are so prominent in the great continents, and even among the igneous rocks 'continental' types such as granites are completely lacking.

Roger was not in the least surprised at such a discovery, for the evidence which had been accumulating over the years had pointed clearly towards this conclusion. It is now certain that Gough, like Tristan, Nightingale, and Inaccessible, is a separate volcanic mountain built up as the result of eruptions in mid-ocean. In the details of its form, however, there is little hint of the typical conical volcanic silhouette so well preserved in Tristan itself. Yet this contrast does not necessarily indicate a difference in the total ages of the two islands. It is more likely that all the four members of the group came into existence at about the same time, but that Tristan remained active after the others had ceased to erupt. Certainly the well-preserved crater-cone of the Peak, and the many small secondary craters of Tristan, could not have withstood the action of rain and wind for the length of time which it must have taken to carve the deep glens and jagged ridges of Gough. But 'recent' in this context must still be interpreted in terms of millions of years, while the origins of the islands probably lie back in the period we now call Tertiary, some twenty or thirty million years ago.

The present Gough Island is, of course, only the summit of a greater mountain rising over ten thousand feet above the level of the surrounding ocean floor. The total area of this mountain mass must be at least four hundred square miles, of which less than one-tenth is exposed above the sea. Yet the present island, as its rocks clearly show, is only the worn-down stump of an originally much higher peak.

After a good deal of study, which even yet cannot be said to have settled the questions at all definitely, Roger LeMaitre has recognised four major phases in the history of Gough as an active volcano. In the first period a high cone was built up out of the sea, with its main crater near the centre of the present island. This cone was composed of layers of basaltic lava, occasionally interrupted by beds of ash and debris thrown out as the result of violent explosions. The basaltic series of this first mountain built up to a great thickness, and even now two thousand feet of rock laid down at this period is exposed on the east coast. Then, at some later stage, stresses within the cone caused a series of cracks to appear in these rocks : cracks which radiated outwards from the centre of the island and along which liquid magma flowed. It was the hardening of this magma which formed the dykes now exposed in so many places in the lower levels of the valleys on the east side. The compass bearings which Roger took at one time and another confirmed that these dykes radiate from a centre not far from the present Edinburgh Peak, and when you stand upon that peak it is striking to see how the dykes all point towards you.

But this series of basaltic flows now only remains as a high rim much broken by erosion, along the eastern fringe of the island. In the north, west, and south it is either not visible at all or only present at a low level in the cliffs. For, at the end of the initial phases of activity, perhaps after a period of quiescence, there was a great explosion in which most of the western half of the island was blown away. Fresh lavas then flowed out over the stump that remained, and these flows were of a different rock — trachyte. Today, these flows come down to sea-level at the south of the island, and on the west side they form the bulk of the high cliffs.

Then, at some later stage, another period of activity caused the deposition of further basaltic flows on top of the trachytes. These rocks now form cappings on some of the higher peaks such as Mount Rowett, Nigel's Cap, and South Peak, and overlie much of the central plateau. They are not penetrated by the many dykes which pierce the lower basalt series, even where they rest directly upon these early rocks. Last of all came the intrusion of dome-shaped masses of trachyte deep within the mountain, and the filling of the vents with trachyte plugs like that now exposed in the Hag's Tooth.

Even if the details of this story are not quite correct, yet the qualitative picture must definitely be true. Explosions, the pouring out of red-hot, liquid rock, crackings, earthquakes; all these things have gone to build the island that we now know. And there is no guarantee that they will not break out again at any moment, to rebuild the cone that many millions of years have worn into its present shape. But, leaving that possibility aside, there is no doubt that the island has been a thoroughly dead volcano for a very long time, for prolonged erosion must have been needed to bring it to its present form.

But there is evidence that this erosion itself did not proceed in a uniform manner. One of the most striking features of the island today is the contrast between the gently undulating central upland, with its extensive horizontal plateaux, and the steep-sided valleys along the northern and eastern fringe. Such a contrast is most easily explained by assuming that the central uplands represent an older land surface: one that has undergone the planing and smoothing of rain and wind for a longer period and has had most of its original inequalities removed. If one looks at the level plateau of Tarn Moss, however, it is clear that rain and wind were not the sole agents in this fashioning of the upland surface. For the level profile of the plateau, especially around the head of Deep Glen, cuts directly across beds of rock which are steeply inclined to the surface. These beds have been planed off, and appear as a series of low parallel walls rising a few feet above the surrounding ground.

A planing action of this kind, cutting across the grain of the rocks, nearly always indicates that the surface was fashioned by the action of the sea. It seems likely that, at some time long past, the island stood about two thousand feet lower relative to the sea than it does today, and that it was at this time that the plateau was levelled. Later, a relatively rapid uplift raised it almost to its present height. This uplift gave added impetus to the streams which would have tumbled precipitately around the margins of the raised land, and these streams would begin to cut new, deep valleys back into the central upland. In this way the present system of valleys along the east and north side was formed, and the uniform height of the ridges and peaks separating these valleys is a clear indication that they represent parts of a once greater plateau, isolated by this process of dissection.

Finally, and much more recently, a minor uplift of about two hundred feet occurred, and it is for this reason that many of the valleys do not open on the coast at sea-level. Many of their streams are cutting new gorges within the old valleys, a clear sign of recent elevation of the land surface.

Now, obviously, no form of life could have settled on Gough while it was a smoking cone, sterilised by heat and fumes. But if activity ceased so very long ago, whereas on Tristan, as I have suggested, activity continued into comparatively recent times, surely one would expect that many more kinds of animals and plants would have migrated to Gough than to Tristan? And yet, when we come to study them, there are if anything fewer kinds of plants and animals on Gough.

To some extent the greater richness — or perhaps less poverty is a better term — of the Tristan fauna and flora undoubtedly reflects human influence. For man, during his hundred and forty years' occupation of Tristan, has certainly brought to that island many species of insect and of plant which were not there before. Yet, even so, the poverty of fauna and flora in both these islands is such as to make one wonder how long it has really taken for their present inhabitants to reach them.

Is there perhaps, or was there, some other cause preventing life on Gough Island since the cessation of activity? Ice, in the northern hemisphere at least, would be a favourite for this role. Certainly the high valleys to the north of Gough are smoothed and the Barren Dome and its neighbours have from a distance the contour of land that has lain beneath an ice-cap. Yet close inspection of the smooth slabs of these hills reveals none of the polishing and scoring of northern *roches moutonnées*. The valleys, too, are full of spikes and rock masses which could neither have retained their present form under ice nor been exposed by subsequent weathering unless that ice retreated a very long time ago. Glaciation, if it ever affected the island to an extent sufficient to exclude life, must have ceased several million years ago. But of course, even if we rule out complete ice cover, the fact remains that a lowering of the mean annual temperature of the island by, say, ten degrees would effectively wipe out much of the existing flora and fauna. If in the past the island has been subject to climatic change of any magnitude, the poverty of its fauna and flora, as well as their similarity to those of Tristan despite different ages for the two islands, would both be explained.

For it is extremely difficult for any species of animal or plant to cross the wide wastes of sea and reach these islands. A rapidly fluctuating climate might well kill them out almost as fast as they arrived, leaving the island only with those species adapted to the climate of the moment, which had arrived there since that climate began.

Must all this remain speculation indefinitely? Is there any way of testing these hypotheses, and finding out whether there have been past changes in the climate of the islands such as could have caused changes in their life? Is there any way of finding out whether there have been any changes in this life?

There is a very good chance of getting some information on these points, and it was for this reason that we bore without complaint the cast-iron burden of Mildred to bogs such as Soggy Plain on Tristan and Albatross Plain on Gough. For a study of the changes in the pollen preserved in the bogs tells one of the changes in vegetation since the bogs began, and if this has varied considerably it is reasonable to assume that the variation reflects climatic change. We already know a great deal, from this method, of the changes in British vegetation which accompanied the retreat of the ice-sheets after the last glaciation. And we also know that changes of similar kind have occurred in the southern hemisphere, while the analysis of the peat the Norwegians took from Tristan suggests that the plant life of that island has been far from constant.

But even if analysis of the plant pollen preserved in a bog provides a picture of the changes in plant life that have gone on since the bog began to grow, that does not conclude the matter. For, unless the commencement of bog growth and the different levels within the peat can be dated, it is impossible to fit a time-scale to the changes in vegetation. In Britain most of the dating of bog-levels has been done using archaeological evidence; if a Roman coin is found at one level or a Bronze palstave at another, there are at least two points in the diagram which can be fixed with reasonable confidence. But there is not much chance of finding human artefacts on Gough Island, and although I once dreamed of finding a Greek temple on the North Point, in the broad light of day that headland was depressingly natural. But there is a method which, we hope, will allow us to date the various levels in the island bogs.

This method, like so many things in modern life, depends on radio-activity. For living material contains as a major component the element carbon, variously combined. Now carbon, as it occurs in nature (in the atmosphere for example), contains a very small proportion of a radioactive form, and this proportion remains constant in living animals and plants because their bodies are in continual exchange with the world around them. But when an animal or plant dies there is no more exchange between the carbon in its body and the carbon in the atmosphere. Slowly the radio-active form of the element decays, and so, over the years, the dead material contains progressively less radio-activity.

By taking a chunk of peat out of a bog, therefore, and by assessing the proportion of radio-active carbon in it, one can get a direct measure of its age. This we hope to do with cores of peat from Jenny's Watron on Tristan and Albatross Plain on Gough.

For Nigel, quite early in our stay, lugged Mildred the two thousand feet up onto Albatross Plain, and took a series of borings from one side to the other. The place in which he actually took detailed samples had over fifteen feet of peat, and Harold dug a deep trench near by from which a complete core of peat was extracted for radio-carbon dating.

Digging in the soft, waterlogged peat of Albatross Plain was no easy task, and water poured into the trench from the cut layers on either side. A lot of the drainage of the Plain proved to run underground, below the peat, which itself lay as a blanket over the uneven contour of the floor of the basin. When Mildred broke, under the strain of an attempt to force the chamber deeper into the stiff silt deposit that covered the floor of the Plain, the prospects of her recovery were small, for the chamber lay ten feet below the surface, in one of the wettest and spongiest places, and to dig her out would have meant major drainage operations and a really big trench.

So John, Nigel, and Harold came down, and Harold said, 'Well, we's buried Mildred now, H'Arnest'.

Mildred, be it noted, is also Ernest's sister, a very different Mildred from the stiff, angular peat-borer.

And there she lies still, for some archaeologist of the future to discover and speculate upon. But, in commemoration, we have named a boggy hollow on Gough Island 'Mildred Mire', and that, too, may give cause for speculation among future visitors to the island.

Visitors to Gough Island will not find the hillsides full of the brilliant colours of rare and startling flowers. Indeed the flowering plants of the island are distinctly dull, and the predominant — almost the only — colours are greens and browns. But this does not mean that the plants are not interesting or rare. When, in 1933, a parcel of plants from Gough arrived in Oslo, Dr. Christophersen, who examined them, found that of the twenty-two species represented, twelve had not been found on the island before, and three were completely new to science. If Lars Christensen, in a stroll along Long Beach which lasted only a few hours, could obtain such interesting specimens, surely a longer expedition would add still more fascinating things to the records.

It was for this reason that Christophersen — 'Dr. Christoph' as he is still known on Tristan — set out to lead an expedition to Gough and Tristan. Owing to lack of reliable shipping, they never set foot on Gough, and the war soon came to reduce still further the value of their results. But we have no cause to grumble, for it was this absence of visits which sent us to Gough ourselves. What, then, did Nigel discover in the way of new plants?

By the time we came to leave Gough about forty species of flowering plants had been collected from the island. Twenty-three had been recorded by Christophersen, who listed all previous work, and only one of these earlier records was not confirmed. Nigel's collection, therefore, nearly doubled the list of flowering plants, though it is not yet possible to say how many of the additional species will prove to be new to science, or to be peculiar to the island. Some of them were, however, distinctly odd, and will probably turn out to be new.

One flowering plant in particular is so interesting that it is worth mentioning here. It is a tree, a flowering tree, whose full name is *Sophora tetraptera* forma *goughensis*. Now Comer, long ago, recorded that there were two kinds of tree to be found on Gough Island, in contrast to the Tristan group, where *Phylica* alone grows. The Scottish party, who only found one, wondered whether the second 'tree' of

Comer's account was in fact the tree-fern. Then, in 1922, Douglas of the *Quest* came upon 'a grove of trees, growing as if planted in an orchard, attaining a height of thirteen or fourteen feet and covering ground of about twelve feet diameter'. This tree proved to be a species of *Sophora*, with related species in New Zealand, islands in the Pacific, Chile, and Reunion. To find it on Gough was remarkable in any case; to find it as a unique form occurring in very small numbers was even more so.

Not long after our arrival Nigel rediscovered *Sophora*, clearly in the same place as Douglas had reported, and later I came upon an isolated tree higher up in the same valley, the valley south of our own which is now named Sophora Glen on the map.

The few specimens and the way in which they are, as far as we know, confined to one valley, suggest to some people that the species may be a human introduction. There is a tendency, when dealing with the odd distribution of a plant or animal, to invoke man as the responsible agent, because his activities are less predictable, and follow a less regular pattern, than those of other methods of dispersal. Natural methods always appear more or less improbable, depending as they do on a long sequence of chance happenings, whereas a human action can be understood and accepted without much difficulty. Man is a strange creature, and however anomalous the distribution of a species may be, if we ascribe it to man it becomes odd no longer.

The rarity of *Sophora* on Gough, and its growth as a single grove 'looking as if planted in an orchard', seem to favour human introduction. But when one considers its world distribution, this hypothesis becomes less attractive. For its nearest stations to Gough are Reunion and Chile, and it is most improbable that ships would have ever made direct passages to the island from either of these places. Even then, the chances of a seed being carried aboard a ship at one end of a long voyage and deposited on shore again many months later, would appear just as remote as those required to achieve a natural dispersal. We now know, from some experiments Nigel has carried out, that the seeds of this tree will float in sea-water for several months. The species is fairly widely dotted about on different islands in the southern oceans, and even if some of the distances between its present stations seem very great there is no reason why these gaps may not once have been bridged by intermediate stations from which it has since vanished.

Certainly the seeds of many South American species do reach the shores of Tristan and Gough. Mrs. Barrow, writing from Tristan in 1906, says: 'We have been for a walk along the shore, looking for "sea beans". These are the seeds of a South American tree, the *Caesalpinia bonduc*, and are often washed up on the shore. Mr. Keytel picked up one of a different species, the *Pusaetha scaredens*, the other day.'

Of course it is quite possible that the rarity of *Sophora* on Gough today is a recent effect; the few trees may be the last survivors of vanished forests. If this is so, the pollen analysis should reveal a former greater amount of *Sophora* pollen, while, if the pollen of the species only appears at a very recent date, this would speak equally clearly for a more or less modern introduction.

Arguments of this kind can be applied equally to all the species present on the island. For a remote island like Gough is a natural testing-ground for different mechanisms of animal and plant distribution, and the discovery of how each species made so great a journey is one of the chief tasks of the biologist. It is noteworthy that Nigel found many species with very light seeds, suggesting transport by wind as a possibility. Other plants have seeds with hooked spines which grip firmly to socks and feathers. Michael and Nigel found the seed of one species (*Acaena* sp.) once among the breast feathers of a mollymawk and twice attached to sea-hens.

It is, of course, very difficult for any species to cross two thousand miles of ocean and reach these islands, so it is hardly surprising that very few species have succeeded in making the journey. The total list of flowering plants for the island, for example, only comprises 39 species, in contrast to about 580 species known from the Hebridean island of Rhum, or about 440 from the barren wastes of Tierra del Fuego.

But even when a plant has reached Gough its troubles are by no means over, for if seed is to be set, pollen has to be transferred from male to female parts of the flower. Obviously species with male and female organs present in the same flower are at an advantage, and these do in fact predominate. But there are a few species with separate male and female flowers, and these are largely pollinated by wind; there are very few insects on the island capable of transferring pollen. For this reason there are no bright, large flowers on the island, for big showy blooms are produced by plants pollinated by insects and indeed get in the way if pollen is to be carried by wind.

But the list of flowering plants is in any case small, and there are nearly as many ferns and their allies. Nigel nearly doubled the list of this group, and his studies on the vegetation showed how prominent ferns were in the general cover of the island. Now ferns have very light spores, and their distribution by wind is therefore an easy matter, and this does much to explain their abundance.

The Expedition therefore nearly doubled the list of flowering plants and ferns, and more than doubled the list of lower plants — mosses, liverworts, and so forth — justifying Christophersen's original predictions. But what did all this amount to in terms of vegetation? I have commented briefly on the forest, and it was liable to provoke odder words which are unprintable, as did the slippery peats of the mountain. But what did all this really look like?

The 'forest zone', in the general sense of the word, lay between sea-level and the thousand-foot contour. The island tree was dominant, forming a dense thicket in the sheltered places, but thinning out on wind-swept ridges and at the seaward end of the valleys, and being absent completely from the sea-cliffs on the west coast. Here it was replaced by tussock grass, which, though it did not reach the man-sized proportions reported from Nightingale, was at least difficult to move through at all quickly. The forest in the valleys, like that at Sandy Point on Tristan, was a tangle of interlacing branches and prostrate trunks, with tree-ferns in the open places. Its canopy was less continuous than on Tristan, clumps of trees being separated by patches of tree-fern scrub, and broken by dyke walls and pinnacles. The colour scheme was similarly varied: the *Phylica* itself a light silvery green, its branches grey, the tree-ferns yellow-green, the other ferns a rich grass-green, and the dykes grey but with red, yellow, and green mosses and multi-coloured lichens. The overall effect of such a landscape was very beautiful, especially when it was capped by a clear sky with hurrying white clouds, and the broken crags and the gulches, with their swift streams and many waterfalls, added to the variety.

The forest ended fairly abruptly at about the thousand-foot level, but the tree-ferns went on higher up the slopes, growing with island celery, crowberry, and grasses. 'Crowberry', as I have called it, is a species of a heath-like plant which creeps along the ground and bears many small red berries. It belongs to the genus *Empetrum* (we have an English crowberry of this genus), and is known on Tristan by the islanders as 'cranberry'. On the more wind-swept slopes this long-growing mixture gives way to a short turf of moss and grass, which is often patterned by wind erosion into strips separated by barren patches. The tops of the island, with their wind-eroded peats, stone stripes, and scattered boulders, resemble the tops of the Scottish Cairngorms closely. The bogs of Albatross Plain and the other plateau lands have a familiar look about them, to people who know the English Pennines. For the *Sphagnum* mosses are the dominant plants in each case, and on Gough these add a good deal of colour to the upland landscape, with their mosaic of reds, yellows, and greens.

So the vegetation on Gough, in form of growth and in colour, is not particularly un-British. Only the tree-ferns strike one as being really exotic. In a similar way, when I probed around among the leaves and roots, the insects and small animals which I found had a familiar look about them. In the loose litter under the trees there were spiders, woodlice, millipedes, and small snails not very different to look at from those which I could dig up in an English garden. But if I searched about carefully, and went on long enough, it was not what I found but what was absent that was striking. No slugs, no centipedes, no earwigs, very few beetles, no grasshoppers. For, just as there are not very many different kinds of plant on Gough, so too are there few kinds of insects and smaller animals.

The reason for this we have already discussed; the difficulty of reaching the island, and the possibility that the rate of immigration may barely be able to keep up with climatic changes. There is one place where neither of these difficulties should be quite so great: the sea-shore, and it is not surprising, therefore, that the fauna and flora of the shallow seas are somewhat richer. In the pools along towards Dell Rocks there are seaweeds of many kinds; reds, browns, greens, and pinkish corallines. The animals are multicoloured too. There is a pink, spiny sea-urchin, and a brilliant-orange sea-slug. Another sea-slug is a pale grey with small orange spots along its margins. Then there are crustacea of several kinds, including, of course, the reddish crawfish of the commercial fishery. Small fish also abound in these pools; most of them 'klippies', but with one or two of what the islanders call 'congers' as well. According to some members of the party, mermaids are to be numbered among the rarer shore fauna, and an islander named Gus Rogers has also reported their occurrence on Tristan. Most regrettably we were unable to secure specimens or photographs to confirm these claims.

But, leaving mermaids aside, the most impressive animals on the island, and those with the greatest popular appeal, were the seals and the birds, and the time has now come to describe these in detail.

CHAPTER TEN

Seals and Elephants

KIPLING'S White Seal, in his quest for the haven to which no man came, passed by Gough Island. But Gough certainly could not qualify as the undisturbed breeding-ground of that story. In 1811 a party of sealers left by the *Baltic* 'only took eleven hundred sealskins' in a year's work, and in 1888 Comer and his party took barely three hundred during their stay; while the visit of the *Wild Rose* in 1892 revealed that 'the seal had deserted the island'.

Since that time the seals have increased steadily, and when we became interested in going to the island we were asked by the Colonial Office to make a census of the present population. For it was possible that commercial harvesting of the valuable skins might be undertaken again, and this was a subject in which the Development Company and the Colonial Office both had an interest.

We thought when we went to Gough that the fur-seal breeding on the island would be the same species as that which inhabits the coasts and rocky islets round the Cape of Good Hope. There are, however, three or four kinds of fur-seal which inhabit the islands of the southern hemisphere, and in so remote a place as Gough it was even possible that we might come upon an entirely new species. This possibility added interest to our work, and there was great excitement when we returned to England at the end of our stay with skins, skulls, and skeletons which made it plain that the Gough animal, whatever it was, was certainly not the Cape species. For a time we hoped it might indeed be new. Michael was for ever darting in and out of the British Museum, and we awaited the expert's verdict eagerly. Finally, it was agreed that the fur-seal of Gough Island belongs to a known species, but a far rarer one than the Cape Fur Seal. It is known to scientists as *Arctocephalus gazella*, and it is found in small numbers on several Sub-Antarctic islands including Kerguelen and Marion. It has no popular English name because of its rarity. Probably well over half the world population of the species breeds on Gough Island.

The fur-seals all belong to the group of Eared Seals which also include the Sea Lions. They have small external ears, and can turn their hind flippers forward beneath them and use them as limbs when on land. This mobility of the hind flippers makes them much more nimble on land than are the true seals such as the Common and Atlantic Grey Seals of our own coasts. Members of this second group cannot use their hind flippers as limbs after the first few days after birth, and they lack external ears. On Gough Island the Sea-Elephant was our only representative of the true seals, and the difference in mobility on land between this sluggish species and the active fur-seals was very obvious.

There is a great difference in size between the adult male and female fur-seals. The males, which are called 'wigs' because of a tuft of longer fur on their foreheads, may be up to seven feet long and weigh three or four hundredweight. They have dark-brown fur on their backs, but their chests and underparts are a creamy or a nicotine yellow. There is of course a great variation in coat colour which may be partly associated with age and partly random, and a markedly ginger-coloured wig was a near neighbour of ours at Dell Rocks. The females or 'clapmatches' are much smaller, often reaching little more than four feet in length, and they are greyer on the back and lack the dark tuft on the head. Pups in their first season have a dark-brown, nearly black, fur which is longer and more curly than that of older animals. The young males, which do not start to breed until they are five or six years old and are therefore known as 'bachelors', have a fine greyish coat which is the one most highly regarded in commerce.

Different species of fur-seal vary considerably in their habits. All of them breed on land, but the northern species which resorts to the Pribilof Islands in Bering Sea spends all the winter months away from the beaches. The southern seals on the other hand never completely desert the breeding beaches, and a rough spell in winter will see many seals lying out on the rocks.

But when the breeding season comes round, all species flock to their familiar beaches in far greater numbers. The wigs usually haul out first, and take up territories on the shores, fighting among themselves in order to secure and maintain control of the place of their choice. Often (in the Cape species at least) a wig will occupy the same spot for several years in succession. The territories are generally fairly well established by the time the clapmatches begin to haul out in numbers. Fur-seals are polygamous, and each wig will gather a small harem around him. It is probably wrong to imagine neighbouring wigs fighting furiously for the possession of each clapmatch; the fighting is chiefly over territories, and any clapmatch entering a wig's area automatically becomes a part of his harem. The number of 'wives' that a wig has varies a great deal from place to place. The northern Fur-Seal of the Pribilof Islands sometimes gathers harems of up to a hundred animals, whereas the average harem size on Gough is probably only about seven or eight. But the position in the Pribilof Islands is unnatural, since a number of males are killed each year for their skins. The pups are born very soon after the clapmatches haul out; in the Cape Fur-Seal within a few hours, but in the Gough species within a matter of days. The females stay with their pups for a period of at least a week after birth, and mating probably takes place during this period. The gestation period in fur-seals is therefore almost twelve months, and this is an asset to the species since the seals need only gather together on land once in the year. The dangers to the species are greatest when they are all clustered together in a small area, and the fewer big congregations the better it is. On Gough Island, the pups are born between the middle of December and the beginning of February. After the first week or so the clapmatches begin to leave their pups for a day or two at a time while they go off to sea to feed. The pups wander up to the top of the beaches and gather in little groups, playing and sleeping by turns. Every now and then a clapmatch comes back from the sea and heads for the nursery, where she finds her own pup by scent, and feeds it. At Gough, Michael gained the impression that most of the seals fed by night, and spent the days ashore. But, while the clapmatches start going to sea to feed within a few weeks of giving birth, and while the pups also move out of the harem territories, the wigs stay on their chosen ground for five weeks or more with hardly a break. And even late in the season, when the wigs go off to feed from time to time, there are always enough on the beaches for the division of the ground into territories to be apparent. As the breeding season draws towards its close the number of animals on the beaches decreases, and in February and March the seals moult. Finally, as autumn draws into winter, an increasing proportion of the seals leave for the sea.

That, at least, is the typical cycle of behaviour in fur-seals the world over, and as far as Michael could see it applied also on Gough. But we were less concerned with studying these habits than with actually counting the population. Naturally, in his counting, Michael started near to Base and worked outwards, and we soon realised that either the seals were very unevenly spread round the coasts, or that there were far fewer than had been claimed. For along the whole east coast, between the Church Rock and Haulround Point, there were no more than seven hundred animals, and these were present in small groups with very few, or no, pups. Even when the north coast, from Church Rock to North Point, was taken into account, only another seven hundred seals were counted. When Michael succeeded in covering the beaches between Haulround Point and South Point the number rose somewhat, for this southern coast had another thousand seals upon it. None the less, a census of three-quarters of the island's shoreline had only provided a total of two thousand five hundred seals; a figure far removed from the 'tens of thousands' of which we had been told. And many of these beaches seemed to be 'hauling grounds' frequented by bachelors and unmated wigs rather than true breeding beaches.

But these early counts established one thing; that the abundance of seals increased progressively the farther we went from Base and the nearer we got to the inaccessible, storm-bound beaches of the west coast. And this tallied with what Scottie and the islanders had said; that it was on the west coast that the beaches were 'simply black with seals'. When Harold and Michael scrambled down the tussock-covered cliffs onto the shores of Snug Harbour on February 20th, we got further confirmation of this, for in a stretch of under a mile of beach they found eight hundred seals. 'The counting was somewhat slow', Michael wrote, 'owing to the rough, bouldery nature of the beach, and the seal's habit of sleeping under boulders.' Michael worked his way along the beaches, counting as he went in a loud voice. The noise scared the seals, and sent them bounding for the sea, and even the most somnolent wig was generally sufficiently aroused for him to come bundling out from his sleeping-place under the rocks.

The boulder beaches of Gough were indeed rough places. Vast masses of rock, some as big as a house, some the size of an average room, some smaller, lay piled in a disorderly heap along the cliff-foot. Between and beneath them were deep crannies and holes, often large enough to rank as small caves. You might come to such a place, and only the pungent smell would tell you that there were seals about. You could then clap your hands, shout, or knock two pebbles together, and the rocks would explode with seal. Dark bodies would burst into view from the most unexpected places, and there would be a snapping and snarling as two fell over one another in their haste to get to the sea. The bolder spirits, or those most reluctant to leave their warm nooks, would snarl at you and show their bared teeth as you advanced. Sometimes, if a wig was cornered between two boulders, or if his way to the sea was blocked by a row of larger, fiercer wigs, he would decide that you were the lesser peril, and elect to fight you. It was then advisable to get out of the way quickly, for four hundredweight of angry seal can move surprisingly fast when they wish to, and a wig's jaws are furnished with teeth every bit as formidable as those of a wolf. But seals are very vulnerable to blows at the base of the nose, and Michael once astonished himself when a wig which he had tapped lightly on the nose with a stick slumped down unconscious on a rock.

There was something very fascinating about a beach with a lot of seals upon it. Best of all, when you sat quietly on a cliff or atop a large boulder, looking out over the seals. After the initial disturbance, the animals would settle down to their normal life, oblivious of your presence. The large, dark bodies of the wigs lay dotted at regular intervals, sleeping tummy uppermost on a sun-warmed rock, or raising their heads to bark defiance at a trespasser. A wig's bark is not unlike a dog's — after all, a seal is quite closely related to a dog, even though their habits of life are vastly different — and the short, sharp noise would echo along the coast. Even a sleeping seal is far from still. There are twitchings and rumblings, and every now and then the beast, half waking, may scratch its nose lazily with a flipper that looks remarkably like a human hand. The hind flippers of a seal lying on its back may be folded forward over the body, and wave to and fro with the languid motions of a lady's fan. The smaller, grey bodies of the clapmatches lay dotted around and between the wigs, while the little black pups often congregated along the cliff-foot behind the beach, playing and sleeping in little groups. Now and again a seal would shuffle down to the sea, and, if the beach had been recently disturbed, there would be a cluster of agitated animals in the shallow water, hesitating over whether it was now safe to return to the land. A seal in the water is a graceful creature, and to watch a pair of young bachelors playing in a pool below you and quite unaware of your presence was a fascinating experience. There was such a pool at Dell Rocks, and James spent hours filming and watching such play. Over and over they would roll, grappling and snapping, and then one would break away and they would chase madly round the pool, twisting and turning as they went and sending the wavelets splashing against the rocks. When you watch a pair of seals playing, looking for all the world like overgrown puppies, it is very obvious that they are first cousins to a dog. The pair of bachelors at Dell Rocks became very tame, and would take fish that James left for them on the rocks even when he was quite close. But it would be wrong to imagine that all the time a seal spends in the water is occupied with vigorous activities such as playing or fishing. You will often see a seal swimming lazily along the surface or close below it (they can, of course, stay submerged for several minutes at a time), and turning slowly in a kind of spiral roll as it goes along. Sometimes a seal will lie afloat, tummy upwards, on the surface, and bend its hind flippers forward to scratch its nose in a most comic manner.

Gough Island is a breeding-place of seals, and occasionally mating was seen. Michael and Nigel landed in a small bay near Haulround Point on December 7th, finding a small rookery of 186 seals including 24 wigs. They watched and photographed a sequence of courtship leading to mating between two pairs, mating itself being preceded by a period of play on land and in the water of a rock-pool. The first pups were born in mid-December, and Nigel and Roger found one of the earliest in the small rookery near Haulround Point. It was an appealing little creature, with its dark curly fur and the misty, watery eyes of all young things. They handled it, and photographed it, and it showed no signs of fear, but after a little while it became shy and squeezed itself into a narrow crack in the rocks, from which it refused to emerge. Later on, Scottie brought us a pup which his men had rescued from the sea, and we kept it for several days, to the detriment of our stock of sweetened condensed milk. It was a playful creature, but none the less had sharp teeth, and Michael found a stout leather glove desirable while handling it. Unfortunately Josephine — or Josephine Frances Repetto, to give her her full name — managed to push the lid off the big box in which she was confined, and escaped to the sea one night. Perhaps surprisingly, young seals do not swim instinctively from the moment of birth as ducklings do, and the skills have to be learnt. Pups generally learn to swim either by playing in still rock-pools or in sheltered backwaters, and do not go to sea very much until they are weaned at nearly a year old. For so young a pup as ours to go to sea was very dangerous, and it had little chance of survival once it escaped.

In the census, Michael tried to record the number of pups, wigs, bachelors, and clapmatches present on a beach, and not simply the grand total. For if there was to be any commercial sealing on Gough it would not be the old, wasteful, indiscriminate butchery that had brought the species to the verge of extinction. Well-conducted sealing does not endanger the stock, because it only takes the surplus males. Fur-seals, as we have seen, are polygamous; on Gough a wig will cover a harem of about eight clapmatches, while elsewhere the number may be up to fifty or a hundred. Since the numbers of male and female births are roughly equal, there is obviously a surplus of males, and as a result male seals do not normally manage to acquire a harem until their sixth, seventh, or even eighth year, while weak beasts may not succeed even then. This competition may make for the selection of the best breeding stock, but it is also the sealers' opportunity. For it is quite safe to kill up to three-quarters of the males of any year-group and still leave sufficient wigs to cover all the clapmatches. The skins which command the best prices are those of two- and three-year-old animals; older beasts develop a coarser fur and their pelts often show the blemishes of fighting scars. There has been a successful controlled harvesting of the skins of young males in the fur-seals of the Pribilof Islands in the Bering Sea for over a quarter of a century. The fact that between 1914 and 1948 the population of that species increased from 250,000 to over one and a half millions, is good evidence that such harvesting does not damage the species. The sign of good sealing practice, therefore, is that the stock should continue to increase despite it.

It was for this reason that Michael wanted to make as complete a count of sexes and age-groups as possible. For he wanted to assess the number of bachelors available for exploitation, and this could be done either by a direct count or by a calculation based on the annual production of pups. His direct counts in fact showed that there were about 13,000 seals on Gough Island, and this total included 5250 bachelors and 2750 pups. If one assumes that this 2750 pups is the total number born annually, as it should be since no pup leaves the beaches for the sea until it is a year old, then, allowing a 30 per cent mortality in the first year, 15 per cent in the second, and 10 per cent in the third and subsequent years, one can calculate:

After one year there will be 1925 survivors.
After two years there will be 1536 survivors.
After three years there will be 1383 survivors.
After four years there will be 1245 survivors.
After five years there will be 1121 survivors.

Now the group classed as 'bachelors' consists of one-, two-, and three-year-olds of both sexes, and four- and five-year-old males, and the expected total of these animals derived from this calculation is 6027. This is in reasonable agreement with the 5250 actually counted, and serves as a check on this figure. Now the two- and three-year-old males are the ones in which the sealer is interested, and these make up half of their year-groups, the other half being females. There must, therefore, be about 768 two-year-old and 691 three-year-old males on Gough and, after allowing an adequate number to survive and keep up the supply of breeding wigs, one is left with about 900 in these two groups which can safely be killed. But to obtain the annual harvest this figure must be halved, since it applies to two year-groups, and the permissible annual total thus comes out at about 450.

These may seem rather formidable calculations to do on a 'desert island', and they did remind one member of the Expedition of the passage in *The Hunting of the Snark*, where,

> 'Taking Three as the subject to reason about —
>   A convenient number to state —
> We add Seven, and Ten, and then multiply out
>   By One Thousand diminished by Eight.
>
> The result we proceed to divide, as you see,
>   By Nine Hundred and Ninety and Two :
> Then subtract Seventeen, and the answer must be
>   Exactly and perfectly true.'

But I have discussed them at length because I want to emphasise the way in which it is possible to analyse and assess a natural asset of this kind. But before you can make such calculations it is essential that your counts of the population be really complete. This was a worry to us before we went to Gough, for we had read of the inaccessibility of the western beaches. From the beginning, people like Scottie who knew the island thought that we had no chance of reaching the places where they had seen the greatest numbers of seal. They took a poor view of our census anyway; it seemed to them to be an armchair scientist's pipe-dream thought up by people who knew nothing about the beaches and had not seen a seal outside a zoo! And, since the Development Company held the rights for Gough as well as for Tristan, if anybody was going to be let in for sealing as the result of our investigations it was going to be Scottie and company, so that they had a real interest in our findings.

Now it was easy enough to count the seals between North Point and South Point eastabout, since these shores were often in the lee and were within a day's easy dinghy journey from Base. But it was more difficult to cover the coasts of Snug Harbour, Repetto Bay, and Scott's Cove, in the south-west, and Battle Bay in the north-west. We did in fact reach all these places in the dinghy, on rare fine days. But from West Point to Scott's Cove it was idle to think of landing from a dinghy; there might be a couple of days in a summer when it could be done but we could not afford to sit and wait for such a day. Nor, from our Base on the east shore, was it easy to judge what the sea would be doing on the other side of the island. So the last stretch of the west coast had to be counted from overland, and this was not easy either. For the cliffs along that section of the coast are between a thousand and fifteen hundred feet high and, although they are not sheer, there are enough rock pitches breaking the tussock-covered slopes to make route-finding distinctly awkward. On one occasion Michael and Harold descended about a thousand feet to within twenty feet of the beach, only to find their way to be blocked by a last sheer drop which forced them into a lengthy detour. At the end of March there still remained a last big stretch of beach to count, and this lay right at the farther side of the island from Base and could only be reached by crossing right over the highest summits of the island. But this beach was an important one, and had been given the suggestive name of Seal Beach by Scottie, and a fine day led John and Michael to make an attempt on it. This is what John wrote afterwards in the Expedition's log:

'The cliffs took a big bite into the land, but were still steep and the stream cascaded over in a high waterfall. However, a way down was found, and the steepest part negotiated with the help of the tightly clinging tussock roots. After this the best route lay down the stream bed, clambering over the enormous trachyte boulders. The fan of debris at the bottom was inhabited by a large population of penguins and the first seal was bathing in the stream 150 yards from the surf.

'We had first to go round a rocky point before reaching a beach of smaller stones, about a quarter of a mile long. There weren't many seals on the rocky point; but once round it the sight astounded — almost dumbfounded — us. As far as we could see along the beach, and up the cliffs some way among a large penguin rookery were seals, herds of them, everywhere.

'We decided that the only way to count them was for one of us to count adults, distinguishing between wigs and clapmatches, and the other pups, for it quickly became apparent that the whole was one large breeding beach. We set about the task as methodically as we could, dividing both the beach and the rookery into workable areas, but even by this means we had to resort to making estimates of the population in three small areas. The day's total was in fact 3636.'

That description gives the bare outline, couched in impersonal prose, of what must have been a memorable experience. To those of us who have spent most of our lives amid the tamed, ordered countryside of lowland England, the sight of a vast assemblage of wild animals comes almost as a shock. The sight of several thousand seals, all packed into a small area, carrying on their normal lives on a coast rarely seen by man before and never described, cannot fail to excite even the most materialistic of scientists. Instinctively one searches for a parallel within the limits of experience; some might compare the scene with a busy city, while others see a resemblance to a crowded beach at some popular seaside resort. The movements of a somnolent seal seem sometimes a parody of a human: the fore flipper waved lazily as if to ward off a fly or hide a yawn; the hind flippers bending back and forth, as a man may move a newspaper as a fan. Then the greater liveliness of the pups, bounding to and fro while their elders sleep, provides amusing comparisons with children playing between the deck-chairs on Blackpool sands. Konrad Lorenz, in his great book *King Solomon's Ring*, has devoted a chapter to the subject of 'Laughing at Animals'. He says, and anybody who has watched seals will agree with him, that we usually laugh at animals because they caricature ourselves. This is the cause of mirth when we watch a seal sleeping, for its movements, considered simply as seal movements, are often very beautiful. More rarely, one can derive pleasure from actions which the animals themselves may also enjoy. It is difficult to watch a pair of young seals playing in a pool and not feel more cheerful at the end than at the beginning.

But however much one might enjoy watching seals, it was necessary for us to take a limited number as specimens, for we wanted to establish the nature of the species found on Gough, and we had promised skeletons of a 'family group' to the British Museum. A collection of skulls would tell us something of the ages of different animals, since the teeth of seals show annual growth rings. Michael therefore shot a small number of seals, using a .22 rifle at very close range. It was impossible to be sure of finding the heart, so the animals were shot at the base of the skull instead. The rifle had a silencer, and it was possible to select, stalk, and shoot one sleeping animal without disturbing the others on the same beach. The dead seal was measured, notes were taken on its skin colour and condition, and it was carefully skinned. The head was then cut off, and the stomach and intestine examined for internal parasites. The genital organs were also removed and preserved. If we wanted the whole skeleton of the seal the carcass was left in a place where the waves could not reach it, and the 'stinkers' and sea-hens soon reduced it to bone and tendon.

Once the carcass had ceased to be the province of science, it passed into that of the kitchen (also represented by Michael). Seal liver is very tasty, and the shoulder muscles of young beasts are excellent eating since they are both tender and of good flavour. The Tristan Islanders — strangely in view of their shortage of meat and high consumption of birds — refused to eat seal. Or, at least, Harold and Ernest did. We tried to reason with them without success, and our claim that John Lavarello would have been less fussy was only greeted with the damning rejoinder 'He'd ate anything'. A remark that reminded us of John Lavarello's own condemnation of somebody's cooking —

'He'd burn water if he try to cook it'.

The other seal which frequents the beaches of Gough Island is the sea-elephant. This is far and away the largest of the island's mammals, a full-grown bull reaching up to twenty feet in length, and weighing up to four tons. It was the first species of mammal that we met on our landing, for two cows and their calves were in occupation of The Glen mouth, and one youngster had to be ejected from his wallow before we could lay the hut foundation. But these elephants deserted the site soon after our arrival, and we did not see the animals in bulk until December 13th.

On this day, John Lavarello, Arthur, Michael, and Roger set off in the dinghy and went northwards along the coast, past Buttress Rock.

'The party landed at the first of these sandy beaches' (later named Capsize Sands), wrote Michael, 'the dinghy being hauled right up on the shore. The main interest here was a "heap" of almost a hundred tons of elephant seal, in the form of 28 large bulls lying crowded together in one place. They were all moulting.

'From here it was possible to walk about three-quarters of a mile, first across a second sandy beach, and then along boulders, before being halted by a small bluff jutting out into the sea. Along this length of shore a further 45 elephant seals, including 27 which were probably three years old or under; all were moulting. No cow elephants were seen at all.

'One noticeable feature about these seals was their variation in colour, from a pale yellow-brown through a rich brown to black, there being apparently no correlation between colour and age. Captain Mohr told us yesterday that in his opinion there are a larger number of elephants here (this is the only beach where he has ever seen them in any numbers) this year than he has ever seen here before.'

James was later landed on this beach to film elephants, and discovered in the course of this work that the viewfinder of his film camera made an object appear farther away than it really was. He had just time to grab his tripod and run, as the tonsils of an angry elephant loomed to vast proportions in his picture. For the sea-elephant is an irritable beast, and a big bull in a bad temper is a picture of wrath. He rears up to a considerable height, roaring with open mouth and inflating the fleshy proboscis or 'trunk' with which the older bulls are provided. Two bulls fighting face one another, rear up, and then lunge forward with open mouths, and they can inflict nasty gashes with their big canine teeth. Old bulls are often scarred heavily about the shoulders, though the greater marks which some show on their bodies are probably the result of narrow escapes from killer whales rather than battles with their own kind.

The killer whale is the elephant's sole natural enemy, but man long ago discovered that the thick layer of blubber beneath the elephant's hide is a source of valuable oils, and throughout the Southern Ocean 'trypots', or cauldrons, used for rendering down the blubber, lie on many a deserted beach. There is one on Tristan, in the bay of that name, which is large enough to serve as shelter for a man in a rain squall. Now, however, there are no elephants on Tristan and few on Nightingale or Inaccessible, and the industry died long ago in these islands. Even on Gough, we estimate the total population to be in terms of a few hundreds only. But in the not far distant island of South Georgia, the beaches are still densely covered with elephants, and thousands of bulls are slaughtered every year for oil.

But to return to our Gough sea-elephants. It was quite clear, by the size of the calves, the absence of cows, and the moulting bulls, that the breeding season had ended before our landing. The sea-elephant, like the fur-seal, is a polygamous animal, and the bulls occupy territories in which they herd their wives. A breeding beach at the height of the season is a noisy, tempestuous scene. For the bulls are for ever resisting the attempts by their neighbours, and by the younger bachelors who lurk on the fringes of the territories, to poach a cow or two. Battles are frequent and fierce, and in their wild rushes at intruders the heavy bulls scatter cows and calves before them.

As with the fur-seals, so with the elephants, mating takes place very soon after the birth of the calves. When the calves are weaned, after a couple of months or so, the cows go away to sea to feed and recover condition. The bulls feed for a short time, and then haul out again on the beaches to moult. At this time, however, there is no sign of the intense territorial behaviour of the breeding season; there is no fighting to speak of between males, and fierce rivals of a few months before sleep piled up together. On Gough some moulting bulls lay out on the sand, like the heap we have just described, while others occupied wallows among the tussock grass behind Long Beach. These wallows are wet depressions between the tussocks, where, by the motion of many elephants, the ground has been stirred into an oozy mud. As many as eight or nine elephants may be seen together in a small pit, the black, stinking ooze covering their bodies, with little more than nostrils and eyes above the surface. It is a comical sight to see the great bodies piled one on top of the other, and to witness the heavings, squelchings, and roarings that greet your approach.

There were some old wallows opposite our hut — people have been known to fall into them — and the islanders told us that in a normal year about a dozen bulls might be seen there.

'There's not many seals there,' we were told, about the hut site, 'but there's lots of those there h'elephants.'

But our arrival seemed to discourage the use of these wallows, fortunately, when one considers the smell that would otherwise have resulted. Every now and then, however, a biggish bull would come up one night, and next morning would reveal him sprawled across the path leading up to the wireless aerials and in imminent danger of bringing the feeder wires down about his ears. Now one of the things we wanted was a recording of an angry bull sea-elephant, so when one of these beasts turned up almost the whole Expedition went out to molest it.

Such an incident occurred on January 13th, and Nigel wrote:

'The principal event of the day was the hauling out of a sociable bull elephant seal by the aerial feeder mast. The entire Expedition descended on the unfortunate beast with cameras, microphones, tape recorders, and notebooks, and gave it a thorough "doing" scientifically. Sticks and stones were used to encourage it to make noises for Michael, who fenced it skilfully with a microphone on a long lead from the Vortexion recorder in the hut. Martin and Nigel encouraged a number of penguins to hop over it, since it lay across their normal path to the rookery — this produced some very amusing situations and some very perplexed penguins, to the delight of James who was busy with his ciné-camera. Altogether a most successful morning, as the play-backs of the recordings showed.'

Annoying a sea-elephant is a comparatively safe business so long as there is somewhere to retreat to. For though his temper may be bad — and treatment such as the above is surely excuse for bad temper — his mobility is poor. The great bulk is difficult to move over land, and the short flippers can only assist a forward lunge of a few feet at a time. An angry elephant proceeds in a series of short rushes, but you can retreat much faster than he can advance, and are quite safe so long as you are out of range of the first lunge of about four feet.

When an elephant moves over stony ground his whole blubbery mass bulges to fit the contour of the ground, and a boulder may produce a dent in the beast which moves along him as he passes on his way. Michael described the motion of an elephant as being 'more like a trundle than anything else, ripples passing along the body under the hide as they move'.

But I would not have you think that we annoyed all the elephants that we met. On the contrary, for the most part we found them and left them asleep, like the youngster in the photograph, which we shall always think of as 'the Gough Island Pig'. There is indeed something very pig-like about sea-elephants, and despite their noise, ugliness, and bad temper, I think we all became rather attached to them. As Lewis Carroll observed in another context:

'His form is ungainly — his intellect small —,'
(So the Bellman would often remark) —
'But his courage is perfect! And that, after all,
Is the thing that one needs with a Snark.'

CHAPTER ELEVEN

Birds of Land and Sea

I SUPPOSE that more gallons of ink and more acres of paper have been devoted to writings about birds than to accounts of any other branch of nature. Whether this is due to their seemingly effortless mastery of an element to which man has always aspired, or to the combination of beauty of form and motion, I do not know. But there is no doubt that on Gough Island the birds made a greater impression on us than any other single part of the island's life. And what birds indeed! They were enough to make the most reluctant of observers wax enthusiastic. The great white Wandering Albatross, with its ten-foot wing-span and graceful, gliding flight; the smaller Sooty Albatross, with its even greater mastery of the air, and its haunting call; and the penguins whose delightful antics took on an added appeal as they caricatured our own. And these were only three out of over twenty species.

In this chapter I shall be talking about these birds in turn: about the details of their lives and about the impression which they made on us. It is impossible to describe their appearance in a way which can convey a clear picture to those who have not seen them, and I shall leave the photographs to show what the more impressive species are really like. And to start with, let us consider the only two genuine 'land birds' of Gough Island, the bunting and the rail, both of which occur nowhere else in the world.

The Gough Island Bunting was one of the most prominent members of the 'reception committee' that awaited us on the beach when we landed. The little birds, no bigger than an English thrush, hopped about on the pebbles, feeding among the dead seaweed that littered the shore.

Small 'hoppers', like our own sand hoppers (*Orchestia*), were its chief prey here, but elsewhere and at other times we saw buntings feeding on a multitude of things. I remember watching one hawking across the face of a damp, mossy waterfall where flies were densely clustered; at other times the birds were seen taking crowberries, sedge fruits, and grass seeds. What made them especially attractive, too, was their curiosity, a feature in which they surpassed all the other island birds. If we sat for a moment on the mountain-sides or in the forest, a bunting would often settle and hop around us. It was nothing unusual to have one perch on a boot, and one once did me a service by eating the hooked seeds that had been caught up in my socks. Buntings often hopped onto the kitchen doorstep in search of scraps, and on many occasions came into the kitchen itself. This was, in fact, a common way of catching them: the cook would see that the windows were secured, and close the door on the intruder, who would then be picked up, weighed, measured, and ringed (with a coloured celluloid ring on its leg) before release.

I have already explained that earlier visitors had reported two different kinds of bunting on Gough Island. One of these has a uniform green plumage, with a tinge of yellow on the breast and dark markings on the throat and cheeks. The other is pale brown with scattered darker brown specks. Originally these had been described as two distinct species, but the larger collections made by the *Quest* in 1922 indicated that it was more likely that they were the same, the differences in plumage being due to age. Michael had accepted the latter view and held it on his arrival, in the face of some determined assertions by John Lavarello that the speckled form was 'the Gough Island Starchy'. Then, a little later, Michael came rushing back to the hut with yet another kind of bunting — a bird with larger, darker speckles on a paler background. There was real enthusiasm; visions of a new species began to mount, and Michael fell to skinning the evidence, finding out as he did so that this was clearly a young bird.

Then, not long afterwards, the identity of this bird was solved. For another one, with the same 'dark speckled' plumage, was seen being fed, not by the 'light speckled' form which it most resembled but by a green bunting. This seemed to confuse the position thoroughly, and it was only after a lot of careful observation that it became quite clear that the 'dark speckled' were this year's chicks, now fledged; the 'light speckled', last year's birds, in a non-breeding condition, and the 'green' the adult birds. There were definite intermediate plumage conditions between the phases, making five reasonably clear patterns in all. It was hardly surprising that there had been confusion in the past.

Michael managed to catch many of these buntings with a net, and weighed, measured, and ringed them before releasing them once more. He ringed them with coloured celluloid bands so that they were readily identifiable, and in this way, by catching them at intervals through the summer and autumn, he was able to follow their plumage changes in detail, and at the same time keep a check on their weight fluctuations. But we all joined in the observations, for it soon became clear that the buntings of The Glen mouth were more or less resident there, and it was rare for a marked bird to be met with far afield. The 'light speckled', yearling birds proved the hardest to catch, but this was in fact hardly surprising. For the birds in this stage were chased vigorously by any adult bunting into whose territory they ventured, and as a result they were much warier than either very young or adult. This chasing of immature birds must function as a distribution mechanism, making sure that the species is spread evenly over the island, and does not remain congregated in a few breeding haunts.

If the buntings were easy to catch, this could not be said of the other bird peculiar to the island, the Gough Island Rail (*Porphyriornis c. comeri*). This bird, as I have said already, resembles an English moorhen in its size and appearance. It has a glossy black plumage with a startlingly red, flat comb on the head and a red bill tipped with yellow. The legs are long and coloured red and yellow, and it has two white bars on the underside of the tail which it displays in courtship and when alarmed. But the most interesting feature of this bird is its inability to fly. The wings are short and are only capable of assisting it to flutter a few yards.

Now flightless birds, like flightless insects, are quite characteristic of remote islands. Probably the reasons are similar, for birds that fly too freely run a risk of being blown out to sea and lost. But it is quite obvious that these birds did not appear on the islands from nowhere, nor did they swim there. Clearly the rails reached Gough Island as airborne immigrants long ages ago, and have changed to their present peculiar form during the thousands of years that have elapsed since their coming. A related species, the American Purple Gallinule, is a casual visitor to the Tristan group at the present time, showing quite clearly that birds very similar to the ancestors of the Gough rails can cross from South America to the islands.

However that may be, it must be a long time since the ancestors of the Gough Island rail landed on the island. Since the species was discovered by Comer in 1888, a number of skins have been obtained for museums, but nobody has spent any time in watching these birds in their natural haunts, so that Michael had unique opportunities. When we first arrived we heard the 'Island cock', as John and Arthur called them, shouting away among the tussock grass that grew thickly in the penguin rookery, and more sparsely on the stream bank opposite the hut. From time to time, as we worked around the hut, a rail would come into sight on the open patches of grass opposite, or scuttle hurriedly across the penguin path. But later, when we began to explore The Glen and the slopes opposite, we came to realise that these birds were quite common. Often all that you would hear would be a sudden alarm-call, sounding as if it came from under your feet, and then you might see the ferns swaying ten yards away. Another call would sound a few seconds later, from a point the other side of the next clump of bushes, and the rail would be gone. Once or twice people glimpsed rails flashing across open patches, but there was nothing in the way of natural behaviour to be seen.

At this time we got the impression that rails were going to be really difficult to watch. And yet I remember one occasion when I was collecting insects in the forest, when everything was very different. I was sitting down, with a net on my knees, examining the contents, when I saw a rail appear in an open patch about ten yards to my left. I sat still, and another came into sight. The pair, for such they obviously were, strolled along, pecking occasionally at some insects in the undergrowth, or scratching in the litter. As they went they kept up a quiet undertone of sounds, a soft, continuous murmuring, very unlike the staccato 'chack-chack' of the alarm-call. One turned and climbed up along a branch of a tree, showing the great length of its spreading toes, and then they both passed out of my sight into the undergrowth.

This incident was typical of many, for we soon found that one only had to sit still to be ignored. Michael spent many hours in the penguin rookery watching the rails that were common there, and often got to within a few feet of one.

The rails, we soon found, were confined to the forest and tree-fern zones of the island, and did not wander on the open mountains. In this they differed from the buntings, which seemed to be very abundant over the whole island, but especially so along the coasts and on the open upper ground. The absence of the rails from open places, together with their elusive behaviour, is undoubtedly due to the attentions of the skuas, which would snap up any that they could catch.

Michael, of course, had hoped to spend a lot of time watching the breeding behaviour of both rail and bunting. But, as I have said, the young buntings were already fledged when we arrived, and although he found an old nest in a tussock, he never got a chance of observing anything more in this species. With the rails, what happened was even more infuriating. For, when we arrived, and found out how elusive the birds were, there was no indication of any nesting behaviour anywhere. Then, a few weeks later, while climbing up the fern-covered slopes opposite the hut, Michael was staggered to see an adult rail pursued by two tiny, black, fluffy balls which could only be very newly hatched chicks. So astonished was he that he simply stood gaping at them, and so missed the chance of catching the first specimen of the Gough Island rail chick ever to be obtained.

So, despite the vigilant watch which Michael and John Lavarello had both been keeping on our local pair of rails, these birds had succeeded in nesting, sitting on eggs, and bringing off a brood within a hundred yards of the hut! What is more, they did it again later in the season! When this second brood, which was quite unexpected, made its appearance on the grass across the stream, Michael's blood was really up. A pair that included the hut itself within their territory (for it seemed certain that pairs of rails take up territories, as do many other species) was watched more intently than ever. Excitement rose when the birds were seen to be building a nest among the ferns behind the hut. This nest was simply a hollow lined with dead grass, not unlike that used by similar ground-nesting birds in Britain. But no eggs appeared, and even when another nest belonging to the same pair was also watched, none ever did. It seems certain that not all pairs of rails bring off a second brood in the year, though there was an increase in aggressive behaviour to invaders of their territory, and also mating, in this pair which Michael had been watching.

The rails inhabiting the penguin rookery, a hundred yards above the hut, numbered several pairs, and it was here that chicks were most often seen. The juvenile plumage proved to be an olive-dun colour, and the young rail had green legs and a drab comb which contrasted with the brilliant colours of the adults. Now these colours are interesting in view of the assertion by Augustus Earle in

1824 that in the Tristan 'Island cock' the females were brown. It may be that what Earle really saw were the young birds, in which case the resemblance to the Gough species must have been extremely close.

During our six months on Gough Island Michael obtained a series of rail skins including both adults and juveniles. But he also wanted to keep some of these birds, partly to watch while we were there, and partly so that he could bring them back for the London Zoo, and for further study. Catching them was not easy, as our first wild dives at rustlings in the undergrowth soon showed. John Lavarello and Arthur Rogers made the first successful capture, cornering a bird under a tussock. Then Michael ran a second to earth after a chase round the hut; but this bird managed to lift the door of the cage in which it was put, and escape. It was not until quite late in the summer that we really went in for rail-hunting on a large scale. It was then decided that it was hopeless for one or two people on their own to try to run down these agile birds. Instead, the whole party went by dinghy to Long Beach, north of Penguin Island, where we knew there was a large population. We spread out in a line and marched slowly through the tussock and long grass, watching for rails to break cover ahead. When one was sighted we surrounded it and closed in, making a final dive when it tried to break through the ring. In this way, in one day, eight birds were caught. And then, right at the end of our stay, Michael perfected a much better method. He found that if you went out with a really powerful torch at night to where the birds were roosting — and this was usually in more or less open places — you could dazzle them for just long enough to grab them before they made a get-away.

A big wire-netting pen of rails outside the front door provided endless entertainment. It was also a good way of hearing and recording their calls. Now I have said that rails are strongly territorial in their behaviour, and it was when we started using this pen that we really noticed the fact. First we had a pair in the pen for a long time before catching any more birds. When we put some later captures into the pen — into the territory of the earlier pair that is — there was real warfare. The earlier occupants gave the newcomers no peace; they chased them round, pecked them, and finally made it necessary for us to remove them altogether. Later on we put eight birds together in the pen, having first taken out the original occupants, and were interested to note that a 'pecking order' developed in much the same way as it does in a chicken run. Fighting was quite frequent in this group, the two antagonists drawing themselves up to their full height, flapping their wings and leaping into the air, striking out with beak and claw in a manner reminiscent of a game-cock. The vanquished turned tail and ran, pursued by his conqueror, who at the same time would utter an aggressive 'chack-chack-chack'.

The rails proved easy to keep in captivity and took many different foods, though porridge oats was a favourite. We brought a dozen back to England, where they have settled down and have now bred successfully in captivity.

So much for the rail and the bunting, technically the most interesting, though certainly far from the most impressive of the Gough Island birds. But the largest of all the island's birds is also distinct in the details of its structure from its relatives elsewhere. This is the great Wandering Albatross, and I have already told of our discovery of its nests and young on the high plateau lands around Mount Rowett.

There are few more impressive birds than the Gony, with its huge wing-span of up to ten feet, the dazzling white plumage of its body, and the delicate shading into black on the upper surface of its great wings. Its head, perhaps, is the least attractive part of it, for the flesh-pink bill and the big eye in some ways give it a naked, rather a repulsive look. Its feet, too, exceed even those of a music-hall policeman in size and flatness. But see it on the wing, gliding smoothly in the wake of a ship, or soaring above a cliff on a day of brilliant sunshine, and there is nothing more graceful.

When we first climbed up the long ridge from the Hag's

Tooth past the north peak of Mount Rowett, and so looked over the boggy hollow of Albatross Plain, only young birds were to be seen on the earthen mound-nests. But in January, after nearly all the young had gone to sea, the adults began to come in to the breeding-grounds once more. The males came first, settling down on the nests and repairing them for the new season. The male Wanderer is lighter in colour than the female, and the old males are very nearly white, except for their wing-tips. Both sexes show this progressive lightening in colour with age, and the youngest breeding females may be fairly dark all over. It is usually possible to distinguish between the male and female of a pair on the grounds that the female is the darker, and even the oldest females usually retain a dark capping on the head.

The male Gonies, as I have said, come in to land first, and take up their stations on the nests or close to them. The females follow and, as they soar overhead, the males on the ground crane their necks skywards and call. The call of the albatross is an indescribable note: high-pitched, wheezing, and composed of long-drawn-out howls and shorter yaps. A female may be attracted by the call and sight of the male below and wheel round, descending to join him. If she alights, they walk to meet one another with a curious, waving gait, neck outstretched forwards and head weaving from side to side. Meeting, they stand facing one another, and the male begins his display. In this the whole great span of the wings is unfolded and held outstretched, and he again calls with neck held vertically. She may also unfold her wings and take up a similar pose. The sight of the two huge birds displaying in this way is an unforgettable one. It is succeeded by a period in which the head is lowered, the wings often folded, and the birds 'kiss' with beaks together, or preen one another's head and neck feathers. Periods of full display alternate with periods of preening until mating takes place.

We never tired of watching this display in all its complexity, and especially when it was rendered more complex by several birds being involved. 'Triangles' are not uncommon in albatrosses, two males competing for the same female, but it is rarer to see four or five birds all participating in what seems to be almost a communal display. It is not uncommon for birds to change their partners. John Heaney photographed a sequence in which a pair of birds — call them Male A and Female A — had been displaying. Male A seemed to tire of Female A and wandered away to where another pair — B — was sitting quietly on the ground. Male A and Female B then began to display to one another, while Male B, now awake, looked on. As the display increased in vigour Male B gave (so John insists) a perceptible shrug of the shoulders and sauntered away to where Female A was now resting. That pair then also began to display. One does not often see females appear to take the initiative in display, but Michael once watched two females competing for one male. The rejected lady, after some minutes, turned aside and began to display to Michael!

But, despite these somewhat lax beginnings, the albatrosses soon settle down to normal, respectable, married life. The eggs are laid in January and hatch in March, and the parents take it in turns to incubate and to care for the chick. The nest relief ceremony is not unlike the mating display in some of its movements, but is less elaborate. As I have said, the chicks remain in the nest for eight or nine months, and it is likely that the adults only breed in alternate years.

The other two species of albatross that breed on Gough have a simpler display in which the wings are not spread. The Mollies have the same 'kissing' and preening sequence as the Gonies, and the male splays his tail into a wide fan.

The young in all three species of albatross are fed with regurgitated material from the parent's crop. The last meal is also the chick's chief means of defence, and it will, if provoked, bring it up so violently as to throw it some feet onto the person of its attacker. The clapping bills of young albatrosses usually served as sufficient warning not to approach too close, but once Michael, in climbing a cliff, found himself in too close proximity to a Peeoo chick and without means of escape. He could only revenge himself by photographing the offender and threatening to make it into supper.

The vomit of these chicks is mixed with an extremely evil-smelling oil which does not come off clothes at all readily. Allan Crawford, in his book *I Went to Tristan*, quotes an islander: 'Wash it out?' he said. 'If you could it would take a whole bar of soap to do it, and still you'd have the smell there for h'all time.'

No account of a southern island would be complete without mention of the 'little gentlemen in evening dress', the penguins. The rockhopper is a small bird as penguins go, standing only about twenty inches high, but he makes up for his lack of stature by his great personal charms. These culminate in the two yellow tassels on the head: tassels of long feathers which bob up and down as he hops along. For, unlike many penguins, the hurrying rockhopper's gait is a hop, and he bundles along at a great rate, over stones and obstacles and through vegetation. Parties bobbing up and down from the rookery in The Glen moved in spasms; periods of advance would be succeeded by periods in which the party stood still, as if taking stock of its surroundings and summoning energy and courage to proceed.

When we arrived at Gough the penguins in our own Glen rookery were sitting on their two dirty white eggs. We watched parties going to and fro every day, and it seemed to us that these birds spent a relatively short spell at the nest. In many penguins, especially those in the Antarctic where the nesting-grounds lie a long way across the ice-floes from the sea, it is usual for one parent to incubate the egg for as long as a fortnight at a time, while the other goes to sea and builds up its body fat. Then comes the relief, and the incubating parent, now thin and hungry, goes away in its turn, leaving the newly fed partner to its fortnight's starvation and guardianship. But in our rockhoppers the numbers passing up and down the penguin road suggested a much more frequent exchange, each parent possibly only spending a couple of days on the nest.

It was fascinating to sit on the hillside above a rookery and watch the parties coming and going. In the lower part of the Sophora Glen there was a big rookery, containing all of ten thousand pairs, which straggled like a twentieth-century town along the main 'roads' beside the stream. From the top of the ridge opposite the hut you looked down a steep three hundred feet of fern fronds and tree-tops into the middle of this town, and could watch little parties of tiny white and black figures bustling down the roads and at last into the sea. It may be folly to attribute human emotions to birds; folly not because one wishes to retain one's dignity as the sole feeling creature, but because there can be no proof of such feelings. Yet the increased bustle as the penguins reached the water's edge at the end of a hungry spell on the nest seemed to speak of real excitement. They would plunge in, their movements taking on an added grace and speed as they dived through the clear waters, and reappear on the surface some twenty yards from the shore. Then, with a shaking of heads and a quivering of tail feathers, they would head out for the open water.

Penguins at sea have three styles of swimming. They may keep on the surface, looking not unlike a duck as they do so, only lower in the water; this is slow, for their flippers are not used for propulsion. Or they may swim under water, at great speed, their powerful flippers beating rapidly. Or, last and most impressive, they may 'porpoise'. In this method the birds swim fast under water and, at the height of their speed, leap from the surface in a shallow arc. In and out of the surface they plunge, their black and white forms looking for all the world like miniature dolphins.

I remember one fine, warm afternoon in February when John, Ernest, and I were sitting on the rocks of West Point waiting for Nigel to join us after a seaweed foray. Two island fishermen, Joseph and Anderson, were with us, and our dinghies were tied up to the rocks, swinging gently in the calm water. There was a big penguin rookery on the tussock-covered coast on our right, but the way to it was guarded by seals, past which the penguins had to go in order to reach home. Now fur-seals rarely attack penguins, in contrast to the sea-leopard which is the birds' greatest enemy, but penguins appear to distrust large bodies in the water, and indeed it is hard to distinguish one seal from another under such conditions. As we sat on the reef of West Point a big party of penguins — probably a hundred at the least — came in from the sea, porpoising as they came. They dashed in towards the landing-place, only to come face to face with a wig heading in the other direction. There was a flurry and a splashing, and the whole party rushed out seawards again, to bob up about a hundred yards away, and sit around on the surface like agitated ducks. Then, after a pause, they came back once more, and the leaders safely passed the perilous seal inlet and came to shore. But the followers were less fortunate, and once more came dashing out into the open sea. The performance went on again and again, and the last birds must have used up a fair proportion of their food reserves before they at last bobbed up to their nests.

Penguins do not go far out to sea in the breeding season, and when a ship comes upon a party in mist, it is a fair sign that she is within an hour's steaming of land. Otto Mohr turned this to advantage when coming down from Tristan on a day when 'forg' was 'chock down' to the sea. *Tristania* has no radar, so that they run down to Gough on a bearing, allowing for current and wind, and then, if it is foggy, wait around until the weather improves enough for them to sight the land. On this occasion Otto knew he was somewhere off the island, but had no idea quite where the land lay. Then, looking from the bridge, he spied a group of penguins heading purposefully into the mists. They could, he reckoned, only be going in two directions, towards Gough or away from it, and one of these directions would put the island in an impossible place. No, they must be heading for the island. So Otto steamed slow ahead, following the penguins, and not long afterwards he sighted the cliffs of South East Point.

Within the rookery there was such a degree of crowding as to make a slum-clearance officer shake his head in horror. In among the tussocks, and on the open patches, nests were grouped together at roughly one-yard intervals, so that each bird was barely out of pecking range of its neighbour. The nests were no more than small piles of stones and debris, just raised an inch or so above the level of the stinking wet mud around. Each bird, sitting on his or her two eggs, resisted the invasion of the territory with a fierce, powerful, dull-red bill, and if you were to walk through a rookery strong protection for the calves of your legs was an essential. And the clamour that disturbance caused! Even without human interference, the noise of the rookery was bad enough, the raucous shouts rising as an intruder bustled through his neighbours' territory.

The first penguin chicks in The Glen rookery hatched in mid-November and soon afterwards the place was filled with little brown balls of down. The chicks stayed on the nests, or in the nest regions, to start with, but as they grew, wandered farther afield. One parent generally stayed on guard while the other was at sea, and some guardianship was very necessary in view of the skuas, which hovered around on the look-out for stray chicks. The young were fed with regurgitated fish, and grew rapidly until, after a few weeks, the nesting territorial system was completely broken down and young and adults wandered freely over the rookery, the young often congregating in big groups.

In January we saw some penguins coming up from the sea that lacked the yellow tassels on their heads. These were the first of last year's young, returning to moult. Before long the area was full of these birds; they came up out of the sea in all sorts of places; they wedged themselves into cracks and crannies under the cliffs, took up positions among the vegetation, and even looked like occupying the hut. Certainly one such bird marched into the kitchen on February 8th and settled down there with the determination of one who contemplates a long stay. We felt that the fluff and disturbance that a moulting penguin would cause was not worth the entertainment value, and hove him out again, after a long programme of filming and weighing. On the other hand, three took up stations in Michael's big cave-workshop and moulted there, while another stationed himself behind 'Nellie' (our lavatory, christened 'for reasons which are apparent to ornithologists').

Later on the adult penguins which had been away feeding and storing up fat, came back to moult. By this time the chicks were fledged, and the last year's birds had nearly finished their moult and were beginning to leave. In March the rookeries were filled with adult penguins, their feathers looking moth-eaten and untidy as they began to come away. In the height of the moult, when the old feathers have been shed from about half the surface, while they remain over the rest, there are few more disreputable sights than a penguin. The birds stand in piles of loose feathers, and the rookery is full of dust and debris. Finally, however, the clean, new white breast feathers, and glossy blue-black of the back, are revealed, and, complete with bright new tassels, the birds tramp back to the sea. They left the island in April, and by the end of that month hardly a single one was to be seen out of a probable total population of two millions.

The southern skua, or sea-hen as the Tristan Islanders call it, is the chief bird of prey on the islands. In appearance it is very similar to our own 'bonxie' of the Shetlands: a biggish, brown bird with a powerful black bill and white bars on the wings. It was a prominent species in The Glen when we landed; its prominence was later explained when we found one nest at the top of the beach, and one where Van set up his met. screens, while yet a third pair nested just across the stream. These nests were spread in a ring round the margin of the penguin rookery; there was another on the streamside flats below the rookery, another less than a quarter-mile upstream, and two more on the northern fringes of the rookery itself.

The nests were shallow scrapes on the ground surface, and most of them contained two speckled eggs. The parents reacted strongly to any invasion of their territory, rising into the air and diving, screaming, on the intruder. They were adept at approaching from behind, 'out of the sun' as somebody asserted, and the first real warning that you had was of a whistling of wind in their pinions as they swooped within a foot of your head. Unnerving, distinctly so, and on Michael's advice some people inserted a stick in their rucksacks so that it projected above the head and was attacked instead. At a later stage, when the chicks were larger, James got some film of this attack by persuading Michael to pick up a chick; this was sufficient to drive the parents almost frantic. After you had inspected the nest and gone away again, the 'victorious' parents would alight on some big boulder commanding the territory, and utter their aggressive call. In this the bird threw its wings back, head up, and screamed 'kea, kea, kea' loudly, before lowering its bill and changing the note.

The display pose of an aggressor was also seen when a *party of these birds quarrelled over a carcass left on the* beach; it might be some unwanted fish, or the remains of a bird that had been skinned. There might be two or three standing around, while the biggest and fiercest tugged at the body. Then a newcomer would drop out of the sky, shout defiance, and sidle up to the remains. Either the possessor got out of the way quickly, or he too shouted in threat. Often they sparred over the carcass, before one retreated; and the one left in possession of the field would then proclaim his occupation by again shrieking defiance.

The night birds form the skuas' chief food. The mountain slopes, and recesses of The Glen, alike are scattered with pairs of wings, neatly joined by the breast bone, and picked clean of flesh; all that remains of a skua's victim. For, although the nocturnal flight of the various petrels helps to protect them, there are still skuas about at these times, and we often watched one in our lights. And, in the grey dawn, as the last night birds move out to sea, the skuas are all around, pouncing on the stragglers. In the daytime it is as much as a prion's life is worth to show itself above ground. Only over the sea do the small birds have much chance, outmanœuvring their enemies by their swift flight low over the water.

But although the sea-hen is a fierce and aggressive bird, there are two species which successfully drive it away, one of them among the largest and one among the smallest of the island's birds. Among the largest, the 'Nellie', 'Stinker', or Giant Petrel. Among the smallest, the Swallow-tailed Tern.

There was a nest of terns on the side of the Archway Rock, in full view of the hut, and easy to photograph from close above. The parents are among the most graceful of the island's birds, with their slim, streamlined shapes, long forked tails, and swept-back wings. Their colours, too, are attractive; their plumage white save for a black cap to the head and a scarlet bill and legs.

Once or twice a sea-hen would perch too close to the terns' nest for their liking, and the parents would dive down upon it in much the same way as a skua attacks a man, but more swiftly. They flattened out close above its head, screaming, and darted away out of range of the strong black bill. Once the skua took flight it was attacked even more fiercely; the little terns flew at it from all angles and even seemed to peck it. 'King Birds', the islanders call the terns, and certainly they can dominate the skua.

The other bird with which the skuas do not attempt to quarrel attains his domination by simple superiority in size and power. The stinker is a far bigger bird than a sea-hen, almost as big as an albatross, and his heavy, plated bill is a vicious weapon. Often, as the sea-hens fought over a carcass on The Glen beach, a stinker would flap in from the sea and scramble up over the boulders, stumbling in its ungainly walk. For stinkers are clumsy on land, and always approach from the sea, landing first on the water and then paddling to land at the nearest point to the carcass. Once on the scene the stinker took possession; the sea-hens retreated to a safe distance and waited until their opponent had finished.

The stinkers around Gough Island were very dark in plumage, and we never saw a white bird such as is common farther south. The white form is increasingly prevalent as the Antarctic continent is approached, and to the south of the Circle it may reach 30 per cent of the total, as compared with 2 per cent in South Georgia. We had hoped that the stinker might breed on Gough, but were unable to find any sign of this. Certainly the bird, as in Comer's day, is not common on the island, and ours may be a wandering population from South Georgia.

The stinkers are even more deadly enemies of the night birds at sea than are the skuas. Sometimes Michael tried releasing birds trapped at the lights, in the daytime, but such attempts usually ended in tragedy. Even if there did not happen to be a sea-hen about — and, as with vultures, as soon as a body or potential body appeared, so did the sea-hens — then a stinker would pounce and the incident would be closed. Only diving petrels could be safely released in daytime, since these disappeared under water, and even they had little chance if a stinker got close to them.

We have said a good deal about the 'night birds' during this account, and they were indeed a most impressive feature in the island's fauna. Michael did not attempt to follow the breeding behaviour in these birds ; it would have meant excavating observation holes over a lot of tunnels, and would have taken a great deal of time. But at regular intervals we put bright lights out after dark, and collected whatever came down. It was curious how the catch varied according to the night. It was generally useless, for example, to try to catch birds when there was a full moon, or even a clear starry night, for they could see enough landmarks not to be distracted by our glare. But when the 'forg' was 'chock down to the hut', we could rely on catching hundreds in an hour. They were bundled into big crates, according to species, there to await later attention.

The composition of the night fauna varied a good deal while we were there. Broad-billed Prions were perhaps the commonest, and certainly the favourite species. With their slate-blue plumage, and their comical broad bills, they had the same appeal that Donald Duck has to children of all ages. Their gurgling, raucous notes completed the comical effect. They were almost incapable of taking off from level ground, but they were expert at climbing up obstacles and at crawling into dark corners. In climbing the wings were spread, and wings, beak, and legs together helped in scrambling up whatever was placed in the way. Next commonest among the birds was the Soft-plumaged Petrel, a less attractive bird whose beak could nip powerfully. On some occasions we caught a great number of Kerguelen Petrels, grey, dark birds whose only unpleasant feature was their harsh call. Our first big catch of these included many chicks in down, and it was clear that we were sampling a massed exodus of young birds, some imperfectly fledged, on their way to sea. They were unskilled fliers, and a distressing proportion killed themselves by crashing down on beach boulders from a height. There were very few casualties among the other species. We also had big catches of Atlantic Petrel, of Great-winged Petrel (the 'Black Haglet' of Tristan), of Dusky Shearwaters, and of Diving Petrel. We had rather smaller catches of Greater Shearwaters, Great Grey Petrels ('Pediunkers'), and Storm Petrels.

The night's catch was treated in a systematic way. The live birds were put in turn into a cotton bag and weighed on a spring balance; then were removed and measured, and finally released the night following their capture. There is a shortage of reliable measurements of birds from such remote places, and measurements are important since species are often separated by size differences. Indeed, the Diving Petrel or 'flying pinnamin' of Gough had been erected into a new sub-species on the measurements of one specimen; a procedure which seems dubious at the best of times and was shown up badly when Michael's results proved the normal range of measurements to include this extreme case.

But it must not be thought that we only saw these birds at night. On several occasions the skuas would be seen digging about in the undergrowth in the daytime, and some unfortunate night bird would be hauled out by their bills and torn apart. Once James rescued such a victim from a pair of skuas by the Archway Rock. He stitched up its wounds with careful surgical skill, and showed it to Michael when the latter came in. His reaction was unfortunate.

'I'm very sorry, James,' he said, 'but I shall have to skin this.'

It proved to be an aberrant, dark form of Soft-plumaged Petrel of which only one other specimen had ever been obtained, and that a hundred years ago.

As a part of his work, Michael skinned a representative collection of the island birds; usually two or three of each species, apart from the bunting and rail, of which he took a more comprehensive series. The skins were hung up to dry in the big cave, which took on the look of a well-kept gamekeeper's larder.

We had quite an exciting time on our first visit to Penguin Island, a 350 ft. high island off the east coast. For, while there were hardly any penguins, the man-high tussock grass proved to be riddled with the nesting tunnels of the Greater Shearwater. This bird is one of the most interesting in the Southern Ocean, for Nightingale, Gough, and Inaccessible are its sole known breeding-places in the world, yet it is so numerous that it is one of the commonest birds off the east coast of North America. The great distances travelled by such migrants, and their return over a great expanse of featureless ocean into another hemisphere to breed, pose a fascinating problem in bird navigation. We later found that this species was quite common on the west coast of Gough as well as on Penguin Island and there may be as many as a million pairs breeding here, as compared with the estimated five million pairs on Nightingale.

Estimating the total numbers of ground-nesting birds is indeed hard. All the island is honeycombed with burrows, but it is difficult to assess the relative abundance of different species, and it is quite clear that some which are abundant on the mountains — the Pediunker (Great Grey Petrel) is a good example — hardly ever flew low enough in The Glen to come down to our trap. But there must be between five and ten million Broad-billed Prions on Gough, and there is probably a comparable number of Soft-plumaged Petrels.

It was fascinating to watch these birds collecting in the dusk over the sea, waiting for the fading light to allow them to approach their burrows safely. Looking out from the hut on a stormy evening we could see a vast congregation of birds beating low over the waves; while, from a ship we got a better picture of what was really going on. Michael described the scene from *Transvaal* in these words:

'Towards evening it was most interesting to watch the way in which the birds gathered preparatory to going in to the island. Dusky Shearwaters in particular seemed to 'stick together' in small parties flying to and fro. Kerguelen Petrels, Soft-plumaged Petrels, and Broad-billed Prions seemed to be in a more loosely built and scattered mass, flying in a haphazard way and not necessarily together. Great Grey, Great-winged, with a few Atlantic Petrels were seen in several places in "rafts" (perhaps up to 250 in any one raft) on the sea. As evening approached, all these birds could be seen getting gradually nearer the island and their numbers increasing.'

This tremendous abundance of bird life is one of the great experiences of Gough, and there are few places in the world where this experience can be had. For the vast population of ground-nesting birds only exists as it does because there are no predators. There are no rats, cats, stoats, or wild dogs. And man, who has achieved the depopulation of similar islands either through his own actions or through those of the animals he has introduced, has also failed to gain a foothold on Gough. Gough Island is a place with negligible agricultural possibilities, no mineral resources, and little to encourage settlers. Its chief value, apart from its use as a weather station, is scientific. It is to be hoped that a positive effort will be made to see that this last undisturbed Atlantic island does not follow St. Helena and Tristan da Cunha, which have lost a great part of their native fauna through human carelessness. It will require a positive effort to keep rats from Gough, and it will need certain elementary common sense and restraint to prevent the introduction of cats. But if these efforts do not succeed our Expedition will have been the last to see Gough in its natural state, and within a few years its teeming bird life will exist only in memory.

CHAPTER TWELVE

Landfall and Farewell

We landed on Gough Island without any clear idea as to how we were going to get home. The Tristan da Cunha Development Company had explicitly dissociated itself from the problem, and said that it would take no responsibility for getting us off the island. Our hopes were fixed on the South African Navy, for we had heard that there was a good chance that the South African Weather Bureau might wish to keep our Weather Station running. As an alternative, there was Dr. V. E. Fuchs, in the *Theron*, who would be returning from the Weddell Sea in March. While he did not want to stop and pick us up, he might be prepared to do so if we were in real difficulties. Then there was the whaling firm who wrote that 'if one of our expeditions is in the neighbourhood at the end of the season we might be able to help you'. Finally, there was always the chance, albeit a costly one, of calling in a passing ship and taking passages to the Cape in her.

So there were a good many potential stools, with an appreciable chance of falling between the lot of them. Much depended on just how useful the Weather Station proved to forecasters in South Africa. As I have explained, Gough Island lies in the path of weather approaching South Africa, and Van's daily bulletins helped experts in the Union to decide what to expect in the next week or ten days.

During our stay, Van had recorded 47 inches of rain in five and a half months, and these, of course, were the summer months. During the first full year of observations the Gough rainfall totalled 109 inches. Despite the wetness of the climate, we had a reasonable amount of sunshine, the daily mean reaching over five and a half hours during the month of January. Later in the season, however, the sunshine records were upset by the fact that the sun was too low in the sky to clear the steep slopes to the north of The Glen; sunset, behind a cliff, took place at about noon. The temperature on the island dispelled any lingering doubts we had about the appropriateness of the classification 'Sub-Antarctic'. For the mean temperature of the months we were there varied between fifty-four and fifty-nine degrees (Fahrenheit), and the thermometer never fell below forty-one degrees at Base. Not even the last faint chill breeze of the Antarctic is detectable in these figures; even during mid-winter frosts are virtually unknown on Gough at sea-level.

But these climatic data were not the only results of Van's activities. From time to time, as we worked on the slopes above Base, we would see a round red balloon float upwards and drift away with the wind. These hydrogen-filled pilot balloons were watched by Van through a type of theodolite, and the record of their behaviour told him a good deal about the currents in the upper air. Once, on a very fine still day, he watched a balloon to a height of 41,000 ft., but more usually clouds would hide it at much lower levels. When the wind blew strongly from the west the balloons used to vanish behind the Archway Rock, and this familiar feature of the landscape owed its continued existence only to the fact that Van's cravings for dynamite could not be satisfied from our stores.

The net result of these observations and reports was, in fact, a decision by the Weather Bureau that the Station on Gough was worth continuing. For, in conjunction with the one on Tristan, it allowed really accurate plotting of the direction of 'fronts' and position of centres of depressions. The two stations together were of far more use than either would have been alone. So it was decided to keep the Gough observations going for the time being, and to carry out a large programme of upper-air balloon observations there as a contribution to the work of the International Geophysical Year.

Quite obviously, the fact that a base was already in existence was a great help to the Weather Bureau, who were able to take over our hut, furniture, generator, radio equipment, and other odds and ends without the expense of bringing out and erecting new ones. So they agreed to purchase all these, and at the same time to give us passages home in the ship which would bring out the party to take over the Station. This ship, the frigate *Transvaal*, was scheduled to arrive at the island at the end of April, having first to make the routine journey to Marion Island and relieve the Weather Station there.

Now this meant taking a big chance with the weather, for everybody on the fishing ships was adamant that the weather got rapidly worse after the middle of March. Yet the date -- late April - at least meant that we had plenty of time to complete the different programmes of work and pack up in reasonable comfort. Some of us had thought at one time and another of staying on over the winter, but this later relief made it doubtful whether much would be gained. The days went by, and we began to bring our programmes towards their end.

Then one day in mid-April -- it was the 15th, I think — came further news. John and I were aboard *Tristania*, having just finished the map of the island, and the ship was at anchor in Snug Harbour. It was a calm day; the dinghies were out fishing, and the long low swell was barely breaking on the orange cliffs of South West Islet. Otto Mohr came out of the chart-room.

'I have bad news for you, gentlemen,' said he. 'I have just been talking to my wife in Cape Town, and she tells me that the *Transvaal* has to go back to Marion Island before coming here.'

That brief sentence brought the first news of a tragedy. Two boats had been destroyed, and one man had been killed, in the stormy waters on the fringe of the Antarctic as *Transvaal* and her crew struggled against the weather to relieve the Marion Island Weather Station. Because of this loss, they were forced to return to the Cape for fresh boats and stores before they could complete their work at Marion, and this in turn meant that they would be a fortnight late in coming for us.

When we got back to Base, the news was received with varying degrees of gloom; degrees depending on what attractions civilisation held for different people. James immediately calculated that the ship could still arrive on time if she hustled; John professed at least to accept these calculations, while everybody, I think, inwardly expected her to be all of the fortnight late. Soon we received an official note telling us that the ship would arrive on or about May 12th.

Otto had warned us that the weather was likely to deteriorate after mid-March, and he proved a true prophet. For, during the summer, the depressions which passed the island in regular sequence, moved for the most part to the south of us. As a result, they came in with a northerly wind, which swung through west, and ended in the south-west. All our strong winds had been from the west, and a good lee had existed off The Glen throughout most of the summer. So good indeed, that landing and launching a boat had been possible on twenty-nine days out of thirty, and we had hardly been able to understand the tales of danger and disaster associated with earlier landings on the same beach.

But then, towards April, the depressions showed a general tendency to pass farther to the north, often between us and Tristan, or over Tristan itself. They then came in with a north-easterly wind, which went through to east as the depression passed, and ended in the south-east. The strong easterly winds sent the swells racing up our beach, to lap the driftwood piled along the storm-mark ten feet above the normal wave-level. It was a fine sight to see, especially when a full moon broke through the rags and tatters of driven cloud and lit the white-capped breakers as they rolled round Dell Rocks and came in to the Archway. The pinnacle of Dell Rocks, itself all of thirty feet high, would vanish in clouds of spray, and the green water would mount high up the side of the Archway. We had to move the dinghies up to the very top of the beach and secure them on the grass. The spray drove right into The Glen mouth, as a fine, damping mist which left a salt crust on windows. The sound of the sea changed, and the pebbles rattling in the drawback of the waves struck a deeper note, like the hum of an immense, somnolent bumblebee. From the big, shallow cave the view along to Haulround Point was a very fine one; spray leapt up level with the top of the Point itself, a hundred feet above its base, and all the cliffs were edged with white.

A fine sight, yes, but an anxious one, and though a stock-taking revealed that we had enough provisions for the winter, it would be a winter of dull, rationed food. When a fine spell came, and let us launch a dinghy after several days of storms, *Tristania* decided to go back to Tristan, and Harold and Ernest asked to go back with her. They agreed, however, to come back with the frigate if she needed islanders to help in the off-loading of stores and the taking on of our specimens.

During these last weeks we began to pack up our collections. Roger nailed down ten crates of assorted rock chippings; Nigel, Michael, and I sealed up boxes of spirit jars; John screwed down the survey crates. We made an inventory—in octuplicate—of the things we were leaving for the South Africans; we wrote a broadcast script to be delivered in South Africa; we wrote three articles for the *Cape Argus* summarising our work and experiences. Then came the time for last visits to the mountains, for striking camps, for last collections. A zoo was rapidly accumulating, for Michael already had over a dozen rails and buntings, and he and Roger raided the rookery in the next valley to collect the last dozen moulting penguins that remained there. They were confined in the big cave, behind a crate barricade, and once would have escaped, had not somebody come round the corner just as they were hopping down the ten yards of shingle which separated them from the sea. Finally, Michael caught six sea-hens and confined them in cages, while three young Mollies, which for one reason and another had failed to make their first flight to sea, were tethered behind the hut. Sleepy, Grumpy, and Dopey these three were named from their most evident characteristics. They had to be force-fed with strips of fish initially, but they soon got used to being fed, and would take the fish from the hand. One of them became certainly the first albatross to be treated with penicillin, for, on developing a septic throat, probably from fish-spine scratches, he was injected with this antibiotic and made a good recovery.

Now all this zoo needed food, and most of it required fish. And the rougher seas made launching a dinghy difficult. On some days it was obviously impossible; on some others we would take a boat down and wait for a 'smooth time' before launching. This was not always successful; once, for example, we pushed John and Michael off too late, and they grounded on a shelf of stones that ran out ten yards from the beach, there to await and be washed back by the next breaker. We wrecked our canvas dinghy at this period, when Harold and Ernest were leaving for *Tristania*, by pushing it over stones with too heavy a load and thus ripping the fabric. So we were reduced to the black wooden dinghy which Scottie had lent us, and this was battered and later had to be patched. But when we got a reasonable day, the fish bit quickly, and Michael managed to salt down a stock for the voyage.

On May 7th we heard that *Transvaal* had at last sailed from Cape Town, bound for Tristan and Gough. We settled down to final crate-marking and packing-up. A talk with Tristan confirmed that Pat Forsyth Thompson and Jerry Stableford hoped to come down to Gough with the frigate, and that islanders and black wooden dinghies were to be available. For, in view of the steepness of the beach and the recent weather, it was agreed by all concerned that these small wooden dinghies were the only sensible craft to use on Gough. And, however good seamen the ship might carry, islanders, with their knowledge of local sea and weather conditions, and of beaches of this kind, were obviously likely to be better fitted to handle these dinghies.

The ship emerged from low, misty rain to sight Tristan at five o'clock on the afternoon of the 11th. They took on two black dinghies and several islanders, as well as Pat and Jerry, and left again almost immediately. We had a 'sked' and spoke to the captain at seven that evening, and he told us what he intended to do next day. They would cut a lane through the kelp, moor a buoy inside it, and use the motor-boat to ferry stores from the ship to the buoy. The black dinghies were then to work a shuttle service from buoy to beach, where a shore party would unload, turn, and launch them. The islanders would be used to work the boats.

Next day, the 12th, was wet and miserable. Yet, to our great relief, the swell had dropped a great deal, and, while it now broke from time to time, it was obviously possible to work the beach. It was, in fact, the calmest day that we had had for about a fortnight.

The grey, misty rain continued all morning, though a brighter patch lay away to the south, where there was obviously a lee of sorts. The ship did not appear until nearly noon, when her grey silhouette slid out of the clouds. She meandered about over the ocean, obviously in doubt as to where to come in, but did not ask us for a light or other signal. We later learned that they 'homed' on The Glen, using one of our photographs published in the *Cape Argus*. Slowly they approached, and finally anchored quite close to the shore, not very far outside the kelp, in about twenty-five fathoms. John and Nigel were pushed off in the dinghy and went out to her. We had a quick lunch, waited, and watched.

The first sign of activity was the lowering of a motor-boat, which soon headed in through the kelp, the crew cutting a channel as they came, and mooring their buoy about a hundred yards from the beach. There was a blinder two hundred yards offshore, which was breaking occasionally with the swell, and we thought their look-out was sure to have seen it; indeed the boat appeared to have altered course to avoid it on the way in. But no, on their return to the ship they passed within ten yards of it. Then came a long pause.

In due course the motor-boat was seen returning, towing a big grey dinghy. They came in, close to the Archway, and we could see islanders aboard. They cast off, and rowed closer. At last! we thought, and went down to the water's edge to pull the dinghy up. But instead of coming in to wait near the shore, the dinghy sat and dithered outside the Archway, where they were in no position to take advantage of a 'smooth time' had it arrived. We waited and waited. It was infuriating to see the minutes being wasted, especially since we knew that the weather was calm for the time of year. It proved to be the islanders — or one at least of the islanders — that was the trouble. A man who knew more about the Gough beaches in his own estimation than he did in reality, but was so firmly opposed to attempting a landing that he swayed even Arthur Rogers, who was in the boat and knew better. Finally, after much coaxing from a lieutenant in charge, the islanders rowed in, and we all heaved on the painter and hauled the heavy dinghy up the beach.

The dinghy proved to contain three islanders, Arthur Rogers, Ned Green, and Norman Swain. With them came Lieut. Coosen, S.A.N., and Lieut. F. M. McAll, S.A.N.R., the latter being a member of the Public Works Department who had the job of examining the suitability of the site for future development. We held a conference, while Ken Sara, ciné-photographer covering the take-over of the station, filmed busily. The islanders began to mutter.

'Not fit for h'off-loading,' said Norman, who was the gloomiest of them.

A swelly time rolled in round Dell Rocks, to break more heavily on the beach. Way out, the blinder broke.

'Crikey, there's a bloody blinder out there,' said a member of the Naval party.

The waves broke more heavily and prospects looked grim. James led Norman to one side, while I talked to

Arthur, who knew the beach better than either of the others. We simply had to impress upon them the fact that this might not be a perfect day but that it was the best for a fortnight, and perfectly safe if mildly unpleasant. That we did not want to spend the winter on Gough, and that we were not prepared to 'wait to see if tomorrow would be finer'. Finally the pressure told, and we agreed to send for the black dinghies and try a few loads, and the motor-boat went back to collect them.

The first loads came ashore quite safely, and we were pleased to welcome Harold and Ernest as they brought their dinghies in. Some sheep were landed, and we carried them up the beach to recover on the grass above. Then Chief arrived, just as the islanders were hesitating again. Long ago, in 1938, a label had been attached to a suitcase reading, 'Mr. William Repetto, Gough Island'. Eighteen years later, Willie's journey had really taken place, and here he was on the Gough beach, coaxing the men to go on working. There was no hesitation after that. Harold, Ernest, and Norman plied their oars and sent the little dinghies flying back and forth. Although the dithering and doubting had left us only a bare two hours' work before dark, about a quarter of the new stores had been landed, and a third of our things had gone off before we had to call a halt. All this time the seas had been about three feet in height, and, while they broke heavily on the shallow shelf running out from low-water mark, we were able to manage perfectly well. We did, however, get very wet, since it was necessary to follow the dinghies when launching them, and make sure that they cleared the ten yards of shelf before the next wave took them.

By nightfall, Pat and Jerry had come ashore, and looked around the little settlement, with its huts on the flat ground below the two flags of Britain and South Africa — the latter a courtesy flag for the ship and for the new South African station. The islanders went back to *Transvaal*, whose lights flickered and danced across the water, and the remainder — twenty-eight all told — clustered into the hut. We served out Gough Island soup, and the last of our rum, and did what we could to make people comfortable for the night. Eight of us, Pat and Jerry, three of the relief party, Ken Sara, and three or four officers from the ship, fitted into the living-room, while the others of the shore party had the kitchen, and the signallers had the islanders' small hut. We rationed out bedding, on the principle that people either had a blanket or a sleeping-bag, or an air bed. With eighteen people in a room measuring eighteen by twelve, much of which was littered with new stores, there was a fair 'fug' in the hut, aided by a heating stove for the benefit of those without bedding. As we sent in a despatch to the *Cape Argus*, 'EIGHTEEN SLEPT FLOOR HUT NOT COLD OWING PACKED SARDINES'.

One rather imagines that the expression 'packed like sardines' is not a South African idiom, for the *Cape Argus*, referring to the Administrator, interpreted this bit of cablese as 'However, he was warm among the sardines stored there . . .'!

On the ship, however, they were even more crowded, for they had unwisely lit the rigging lights. They were bombarded by night birds in consequence, and we later heard that there were few parts of the ship which did not suffer an incursion of prions.

Next day began with a rough-and-ready cornflake-and-coffee breakfast, and the first loads came ashore before seven. Norman looked triumphant, because the weather was finer than on the day before, but even so the last loads were not finished with until mid-afternoon. John took Pat and Jerry for a walk up above the rookery, and they got soaked in passing through the wet vegetation. We held a final formal stock-taking, with Mr. Engelbrecht of the Weather Bureau, and visitors from the ship came ashore for a look round. Van was sworn in as Magistrate and as Postmaster of the island. At last, still under mist and rain, the time came for us to say goodbye to Van who remained behind, in charge of the Station, and his three companions.

So it was that, after six months to the very day, we pushed off a dinghy from the shores of Gough for the last time. Van and his three companions stood, a small, lonely-looking party, on the shingle slopes, diminishing to specks against the stones as we rowed out through the kelp.

Late that evening, the grey cloud-blanket parted to give a most glorious sunset. And, next morning, we awoke to a clear, sparkling dawn which showed the island at its best, with all its colours and bold land forms. We spent that day doing hydrographic survey, under the direction of Commander R. T. Tripp, S.A.N. The ship went slowly round the island, now heading in towards the shore, now turning and heading out for the open sea. Every minute the reading on the echo sounder trace was recorded, and at the end of a group of five soundings a 'fix' of our position was obtained using a pair of sextants. John and a Chief Petty Officer took the readings, I booked, and Commander Tripp organised and plotted. We zigzagged our way round the south and along the west side of the island, keeping between the thirty-fathom and three-hundred-fathom contours. All the way, we pointed out to Pat and Jerry and others the features of the island, for even Edinburgh and Expedition Peaks stood clear of cloud in the morning. Roger talked to Lieut. McAll about possible sites for a bigger Weather Station, should this ever be established, and Nigel made last notes on the distribution of vegetation types. Michael looked after the 'zoo' (all our many live birds) neatly housed on the ship's 'Squid' deck.

Finally, in the evening, just before dusk, we passed Penguin Island and completed our circuit of the island. Clouds had returned to hang low over the hills, and the island faded from our view in a typical veil of mist and vapours.

How much had we accomplished in the six months of our stay on Gough Island? We had set out from England with high hopes and elaborate programmes: how much of those programmes had withstood the test of field conditions? It is normal for a scientist to prepare an outline of future work which looks ideal on paper, and equally normal for him to be forced to abandon about half of his objectives when faced with limitations of time. It is also normal, when going to a little-known place, to find that the initial concepts concerning it were so wrong that plans based upon them are impracticable.

We had set out to make an accurate, shore-based survey of the island, and this had been done. The map, made on a scale of 1/30,000 (about two inches to the mile), was based on thirty triangulation stations and a large number of plane-table points. The contouring, with its vertical interval of two hundred and fifty feet, might not be as precise as would be required by the rigorous standards of the Ordnance Survey, and the stream courses, which were sketched, might not have all their meanders correctly represented, but the map was, we felt, fully adequate for any foreseeable future needs, and the survey programme could be said to have been carried out in full. The geological collecting had covered the whole island, and Roger was left with time on his hands towards the end of our stay; time which he used in helping Michael, who was the busiest of all. The botanical work was complete, as were the seal census and the collection of bird skins. We had failed to observe the nesting of the bunting and rail, owing to circumstances not entirely under our control, and Michael had been unable to carry out his programme of ringing young stinkers simply because the stinker does not breed on any part of Gough which we visited. The invertebrate zoology — my own subject — had not been done as thoroughly as I would have liked, owing more than anything else to my having spent about half my time in surveying. But I had sampled the remarkably uniform fauna of Gough sufficiently for a fair picture to be drawn, even if later visitors will still add considerably to the total list of species for the island. The filming programme had used up all the film that we had brought, and most of it had been shot under good weather conditions. James could certainly have used a great deal more stock had our finances allowed its purchase, and was often hampered by a shortage of film. But he had covered the wild life of Gough and the human life of Tristan fairly thoroughly, and the subsequent processing of the film confirmed that a high proportion of his material was screenable. The Weather Station had been a success, and regular and efficient wireless communications had been maintained. Summing it all up, we had reason to be content with the results of our six months' stay. While nobody would be so bold as to assert that everything worth doing on Gough had been done, we came away feeling that it would not be worth while for another full-scale Expedition to go there for many years to come. Only now, two years afterwards, are the many openings for future work there becoming apparent.

But it would be far harder to assess how much we had all gained in terms of personal experience. For an Expedition such as ours does not leave merely a collection of memories growing fainter with the years; a nostalgia and a restlessness. It gives an appreciation of a kind of life other than the normal, and, if this attracts, cannot fail to have an influence on the future of its members. On a lighter note, John, as the sole married member of the party, threatened the remainder with instant matrimony on return, for, as he said, 'people who go on expeditions always do seem to get married within the next two years'. One member of the party justified John's predictions by becoming engaged within weeks of our return; for the rest, time alone will tell.

The grey weather was with us still as we headed for Tristan next morning. Nightingale was glimpsed early on, but we saw nothing of the main island until we were off Sandy Point. Then all that appeared was a dark line below darker cloud; the cliff bases from Jew's Point by Rookery to Big Point. In contrast, when the Settlement Plain slid into view, it sparkled in the sunshine of the island's lee, and the houses and slopes of the Base were bright and clear.

The longboats came out to us as we anchored, and soon we of the Expedition were heading once again for the shore of Little Beach. And, as Christophersen also noted when he returned to Tristan after a five weeks' absence, the atmosphere was one of homecoming. There is some quality about this island that attracts and gives contentment; how else is it that so many shipwrecked people have preferred to remain there rather than return to their homes and families? Others, with more ties, have left with regret, and some of them, like Allan Crawford, admit to 'having toyed with the idea of exchanging the trials of a civilised world with the more elemental ones of Tristan'.

Tristan and its people have usually made a wonderfully good impression on visitors from the outside world, and those whose stay there has been limited to a few months go away loud in their praise. Those who stay longer sometimes seem to become disillusioned, speaking of the islanders in far different terms. I do not think that there is any real change in the islanders which explains this change in attitude. It is more likely to be a change in the minds of the visitors themselves. At first contact, the friendliness and simplicity of island life, and its freedom from the trials peculiar to an urban civilisation, are tremendously attractive. Later, comes the realisation that the islanders are not paragons of virtue; they are ordinary people, with the normal mixture of human failings. They have a pathological distrust of anything new, and a tendency to do one thing having said another. Like all groups of people, there are good and bad, honest and dishonest, among them. There are some who are lazy in their work, and unclean in personal habits. They are, as a group, uneducated and lacking in conversation. But a realisation that everything in this island Utopia is not perfect should not drive visitors to a condemnation as sweeping as their original enthusiasm. Rather it should lead to a more balanced appreciation of the virtues as well as the vices. People from the outside world who write books about Tristan are not popular on the island, for they have gained a reputation for having exaggerated the oddity of the place and people in order to sell their works. Let me try to avoid this error and assure you that there is nothing particularly odd about Tristan or its inhabitants. They are a normal human community, living happily on an island of great beauty. As in the days of Peter Green, they have not got everything that they want, but they always have a welcome for those who pass that way, and few people leave the island without regret and without counting its people their friends.

We stepped ashore on the shingle of Little Beach, and walked up with Harold and Ernest to the houses. Harold was limping badly, for an unskilled rating the day before had dropped a five-gallon oil-drum on his foot, causing bad bruising if nothing worse. It was a fine morning up at the Settlement, as we hopped over the watrons with their usual guard of hissing geese. We went round calling on friends — Johnnie Green and Sophia, Harold's parents; Ernest's people; Martha and Arthur Rogers; Maria and John Lavarello. Then down to the Station, to say a few words to friends there. And then to Mary and Fred Swain's, where we had been invited for 'Big 'Eaps'.

Mary Swain had been a good friend to the Expedition. Her concern for our welfare began early, and after Robert and Roger's misadventure on the cliff she appointed herself extra guardian. 'You tell that Roger,' she once said, 'that if I see him on that cliff again I'll take a stick to him.' She was determined to give us a good 'send-off' from the island, and when she learned that the frigate was due back that morning she had a sheep killed and hastened to prepare the feast. 'Big 'Eaps' is a feast at which roast mutton with potato stuffing is the main dish, but as we found when we came to sit down at Mary's table at half-past one, it is by no means the only dish. Our first surprise was to find a packet, wrapped in newspaper, on each place. Unwrapped, each proved to contain a most beautifully knitted pair of island socks, the pattern at the top being of a kind we had never seen before, and doubtless of tremendous significance. The socks having been removed, the ten of us — for Harold and Ernest had been invited, and Fred Swain sat down in the host's position at the head of the table — began to attack the sheep. Piles of meat towered towards the ceiling, and with them were potatoes roast, potatoes boiled, and green vegetables. We ate and ate. Vanquished, we gave up without having lowered the mutton piles appreciably, and they were removed to the kitchen where a great bevy of helpers awaited them. Mary next produced two 'Tristan puddings' (suet with currants and raisins, and very good too), and a 'pot-of-all-kinds' (a fruit salad). After a glass of wine we staggered into the garden and sat and talked with our host and hostess and the many nieces and friends who had helped Mary to prepare the feast.

We were not certain when we should have to leave, though the fine weather suggested that we should be able to give a farewell dance that evening. But in mid-afternoon came an alarm that all were to be at Little Beach at five o'clock. We mustered there, to look out over a glassy sea. There was no sign whatever of it 'making up', and, when the captain arrived and saw this, and heard Arthur Rogers and others' opinions that it was set fair, he agreed not to leave until midnight.

We had a drink and our last meal on Tristan with Pat and Joy Forsyth Thompson in what we had come to call 'Government House', and then went up to the dance. We began, as before, with an unrehearsed and chaotic 'Gough-some Reel'. We went on through all 'the usuals'; with an admixture of donkey dance, Black Tom, chair dance, and cushion dance. In the cushion dance the captain of *Transvaal* and Commander Tripp were both selected, to the great delight of the members of the crew who were present. Finally, at half-past ten (for the beach muster was fixed for eleven), Harold put on the last record, and soon afterwards we all filed out of the room. The dance ended quietly; there was so much that might have been said, and so many people to whom we might have said it, that in the end hardly anything was said at all. We had visited most of our particular friends already, and many of them had pressed upon us parting gifts of socks. Now, as we walked across the grassy plain to Little Beach in the dark, it seemed strange that we were leaving, perhaps for good. The men were waiting on the beach, a longboat, a canvas dinghy, and a black dinghy were launched, and the crews pulled away towards *Transvaal*'s lights dancing far off across the water. Alongside; up a short ladder onto the quarter-deck. The crews scrambled up after us, and we held a last short chat and shook hands all round. Then the time had come for them to leave, and they climbed down again into their boats. A searchlight from the ship blazed a pathway down the waves to the shore of Little Beach, which showed vaguely away at the edge of sight. The boats pushed off; the oars dipped and swung as they went away. Three cheers, and answering cheers. Silence, and we watched while the boats grew smaller and fainter as they passed down the beam and onto the beach at the far end.

And the searchlight switched off a chapter of existence.

APPENDIX

THE PLACE-NAMES OF GOUGH ISLAND

PLACE-NAMES have a fascination for many people, and their origin often provides much room for speculation. In Britain many of our landscape features have been familiar for so long that there can be very little certainty over the meaning of their names, or about the people who gave them. On Gough Island, as in other recently mapped country, on the other hand, most of the names are still new, and their origins are certain. Since no list of these names has ever appeared before, we think it worth while to record them here.

These names have three main sources. Some, marked (A) in the list below, are taken from the Admiralty Chart No. 1769, and were given by various parties who visited the island before 1955. Another group has been coined by members of the Tristan da Cunha Development Company, and especially by Mr. M. T. Scott, and these are marked (T). The third group was added by ourselves, and indicated (E). As would be expected, the first two groups apply chiefly to coastal features, while the third includes most of the features in the interior of the island.

1. *Coastal Features* (*from North Point eastabout*)

North Point (A). Descriptive.

Cave Cove (T). A large cave, The Baker's Oven, is its most prominent feature.

The Baker's Oven (E). An old sealer's name, referring to the resemblance which this cave has to an oven. The dark, square mouth is set back within a very regular arched recess.

Round Island (A). A small, round-topped sea-stack.

Pequena Cove (T). After the *Pequena*, first ship owned by the Tristan da Cunha Development Company.

Cone Island (A). A high, conical stack.

Lot's Wife (A). A tall pillar of rock. This is an old sealer's name. One group of visitors referred to this island, Cone Island, and Round Island as 'Mr., Mrs., and Miss Lotz' — an interesting variant on a biblical theme.

Lot's Wife Cove (A). Cove east of Lot's Wife.

Church Rock (A). A sea-stack shaped like a church, with a 'spire' 200 ft. high.

North East Point (A). Descriptive.

Hawkins Bay (E). H.M.S. *Hawkins* visited the island during the Second World War, hunting Germans.

First Rock (E). Surveyor's field name; the first off-lying rock going north along the coast from Penguin Island.

Long Beach (E). The only stretch of beach along which one can walk for any distance.

Penguin Island (A). The largest off-lying island. There are no penguins here now.

Channel Rock (A). A low skerry lying in the channel between Penguin Island and the mainland.

Reef Point (A). The name probably refers not to a rock reef, since there are no large reefs off this headland, but to a sailing direction. Compare Haulround and Luff Points below.

Milford Bay (E). H.M.S. *Milford* landed the party who claimed the island for Britain in 1938.

Capsize Sands (E). The second mate of *Tristania* overset a dinghy here in the surf.

Buttress Rock (A). A tall islet, set close under the cliff and appearing as a buttress to it.

Dell Rocks (A). After J. W. Dell, boatswain of Shackleton's ship R.Y.S. *Quest*.

Archway Rock (E). A very old traditional name from sealing days. The headland is pierced by a cave.

Quest Bay (A). The *Quest*, like many other ships, anchored here.

Waterfall Point (E). A conspicuous waterfall drops in the angle of the cliff, serving as a mark for the anchorage.

Haulround Point (A). Sailing direction?

Luff Point (A as Luff Island — renamed by Expedition). This name is probably also based on sailing directions.

Number One, The Commodore, The Admiral (all A), and The Midshipman (E). A group of small islands, the ranks indicating their varying degrees of size and importance. The Midshipman is quite a tiny fellow, frowned down upon by his greater neighbours. Some rocks adjoining The Commodore were sometimes described by nautical members of the Expedition as 'The Epaulettes'.

South East Point (A). Descriptive.

Transvaal Bay (E). S.A.S. *Transvaal* relieved the Expedition in 1956, and has since relieved the Weather Station and taken out the main South African International Geophysical Year party in 1957.

Stand-off Rock (A). Yet another name based on a sailing direction. It is also good advice in this locality.

Cavern Head (A). A fine headland, with big, shallow recesses in its south face.

South Point (A). Descriptive.

Snug Harbour (A). Very far from descriptive. This is only a shallow bay, giving a lee and safe anchorage only in northerly winds. It is rarely used by the fishing vessels, since Transvaal Bay gives a better anchorage for these winds and has less swell.

South West Island (A). This tall islet seems once to have been named Castle Rock by sealers, and a rock, now nameless, close beside it may have been called Battery Rock. It seems a pity that descriptive monotony has prevailed here.

South West Point (A). Descriptive.

Rockhopper Point (E). This flat-topped headland has the largest penguin rookery on the island.

Repetto Bay (T). After M.V. *Frances Repetto*, ship of the Tristan da Cunha Development Company, in turn named after an outstanding Tristan character.

Saddle Island (T). An island with two prominent humps separated by a depression.

Scott's Cove (T). Mr. M. T. Scott, Chief Officer of the *Frances Repetto*, has made several additions to the maps of the island.

Gaggins Point (E). Mr. C. H. Gaggins, Chairman of the Development Company, did much to help the Expedition.

Sea Elephant Bay (E). An old name which, because of the inaccuracy of the old maps in this region, has had to be re-defined. Sea-elephants are not so common here as on the east coast.

Nereus Head (E). H.M.S. *Nereus* visited the island in 1811 and her master, Capt. Peter Heywood, gave a good description. As a youth, Heywood had been one of the mutineers on the *Bounty*, but escaped punishment because of his age.

Seal Bay (E). Another old name, re-applied. This bay, which is very difficult to reach, has one of the largest breeding colonies of fur-seals.

Royalist Point (E). H.M.S. *Royalist* made a rough survey of the island in 1887.

Baltic Bay (E). The American sealer, *Baltic*, landed a party on Gough in 1809–10.

West Point (A). Descriptive.

Flat Rock (T). Really two rocks, with flat tops.

Tristania Rock (T). The highest sea-stack around Gough, rising to 540 ft. Named after the M.V. *Tristania*.

Battle Bay (T). It is said that two fishermen fought here, one hitting the other over the head with a weapon variously reported as an oar or a whisky bottle.

Isolda Rock (T). This island is pierced by a cave.

Fishpot (T). A small bay close under North Point, reputed to be a good fishing-ground in fine weather.

2. *Names of Valleys and Lowland Features (eastabout from North Point)*

Comerdale (E). After George Comer, second mate of the sealer *Francis Alleyn*, who led a party left on Gough in 1888–9. Comer obtained the first specimens of the flightless Island Rail, and kept a record of island weather.

Worsleydale (E). Commander F. A. Worsley, D.S.O., R.N.R., made a survey of the east side of the island from the *Quest* in 1922. He is best remembered as the captain of Shackleton's *Endurance*, and as the navigator on Shackleton's famous open-boat journey from Elephant Island to South Georgia.

Camp Glen (E). High Camp was placed in the head of this valley.

Deep Glen (E). One of the most impressive of the eastern valleys.

Tarn Moss (E). A broad, boggy plateau with several small pools, lying almost in the centre of the island.

Wild Glen (E). Named after Commander Frank Wild, C.B.E., R.N., second-in-command of Shackleton's *Endurance* and *Quest* Expeditions, and leader of the latter party at the time of their visit to Gough.

The Glen (E). Named originally by the Scottish National Antarctic Expedition of 1904.

Gonçalo Alvarez (E). This was the ancient name of the island, and has been re-applied to the Weather Station and the Expedition Base Camp.

Sophora Glen (E). This valley is the sole known locality for the tree *Sophora tetraptera* forma *goughensis*. By Tristan Islanders it will probably be corrupted to 'Sufferer's Glen'.

Gonydale (E). This broad valley has quite a large nesting colony of Gonies (Wandering Albatross).

Michael's Col (E). This name was used in the field for the gap between Mount Rowett and South Peak, over which the main way from Base Camp to the subsidiary camp in Gonydale ran. The ridge running from the Col into The Glen was known as Michael's Ridge. Both are named because Michael Swales was the first member of the Expedition to use them.

Albatross Plain (E). The broad hollow west of Mount Rowett is much frequented by these birds.

Mildred Mire (E). Another boggy hollow, named in memory of the Expedition peat-borer which was used to probe such places, and was finally lost in one.

Big Gulch (E; following T). A deep gorge, named from its likeness to Big Gulch on Tristan.

3. *Names of Mountains (in order of height)*

Edinburgh Peak (E) (2986 ft.). In recognition of the encouragement and assistance received from H.R.H. Prince Philip, Duke of Edinburgh, and in commemoration of his visit to Gough Island on January 17th, 1957. (Formerly known as Middle Peak.)

Expedition Peak (E) (2981 ft.). An example of collective commemoration. The field name was High Peak, and this name has a long history on Admiralty Charts. But it was not certain which peak it referred to, and so it has been replaced.

Mount Rowett (A) (2744 ft.). A long ridge with four main peaks, climbed by members of the *Quest* expedition in 1922 and named by them after Mr. J. Q. Rowett, patron of their expedition.

Nigel's Cap (E) (2662 ft.). Nigel Wace, Expedition botanist, lost a beret here, and the name is a contraction of the descriptive phrase 'Peak where Nigel lost his cap'.

South Peak (E) (2493 ft.). Descriptive. This was once referred to as 'The big hill at the head of the little Glen', but this did not provide a useful contraction, and the present name was arrived at because nobody could think of a better one.

False Peak (E) (2485 ft.). This peak looks like Edinburgh Peak from certain angles, and was confused with it by one party in the early days of the Expedition.

Barren Dome (E) (2430 ft.). A low, dome-shaped hill almost completely lacking vegetation.

Sea-hen Crag (E) (2330 ft.). A great colony of skuas was found here on our first visit.

The Hag's Tooth (A) (2270 ft.). A plug of weathered rock, forming an impressive tower, not entirely unlike the broken stump of a tooth. Other early names, perhaps from the sealing period, are The Apostle and Gough's Monument.

Low Hump (E) (2185 ft.). A spur of Mount Rowett, only named because it was important in the survey.

Tavistock Crag (E) (2099 ft.). A bold summit, named after a type of theodolite which was used there.

Triple Peak (E) (2080 ft.). Three summits.

Kern Crag (E) (2006 ft.). Another prominent peak, and another theodolite.

Middle Fell (E) (1976 ft.). A rocky tongue separating Deep Glen and Wild Glen.

Mount Argus (E) (1925 ft.). After the *Cape Argus*, a South African newspaper, from whom we received much help.

Spire Crag (E) (1876 ft.). A most inappropriate name, based on the fact that this long ridge looks sharp and symmetrical when seen end on. By the time it had been seen broadside on, the name had been entered on the surveyors' field sheets.

Green Hill (E) (1870 ft.). A smooth grassy hill, given this name by surveyors in the field.

Haystack (E) (1647 ft.). A craggy peak, looking no more like a haystack than like any other similar upstanding object. Again the result of the stimulating effect of cold wind upon a surveyor's imagination.

Pummel Crag (A) (1161 ft.). An old sealer's name, probably referring to its likeness to the pommel of a saddle.

The Fid (A) (1099 ft.). Another sealer's name, referring to the sharp, wedge-shaped form of this feature.

Richmond Hill (E) (690 ft.). Formerly marked on some charts as 'The Bluff'. Now renamed after Captain Gough's ship *Richmond.*

Perhaps the most surprising thing about this list is the large number of names which have been applied to features on so small an island.

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